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## OM protein - protein search, using sw model

Run on: December 10, 2003, 18:12:09 ; Search time 22 Seconds  
(without alignments)  
2361.715 Million cell updates/sec

Title: US-09-661-016B-10  
Perfect score: 6515  
Sequence: 1 LTSNRKNEINEIINAVNSHA.....IGETEGFIVDSVELLMEE 1228

Scoring table: BLOSUM62  
Gapop 10.0 , Gapext 0.5

Searched: 328717 seqs, 42310858 residues

Total number of hits satisfying chosen parameters: 328717

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

Database : Issued Patents AA.\*  
1: /cgn2\_6/ptodata/1/iaa/5A\_COMB.pep.\*  
2: /cgn2\_6/ptodata/1/iaa/5B\_COMB.pep.\*  
3: /cgn2\_6/ptodata/1/iaa/6A\_COMB.pep.\*  
4: /cgn2\_6/ptodata/1/iaa/6B\_COMB.pep.\*  
5: /cgn2\_6/ptodata/1/iaa/PCTUS\_COMB.pep.\*  
6: /cgn2\_6/ptodata/1/iaa/backfilea1.pep.\*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

## SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	6405	98.3	1207	1	US-07-951-715A-7
2	6405	98.3	1207	2	Sequence 7, Appli
3	6405	98.3	1207	3	Sequence 7, Appli
4	6405	98.3	1207	3	Sequence 7, Appli
5	6405	98.3	1207	3	Sequence 7, Appli
6	6405	98.3	1207	3	Sequence 8, Appli
7	6405	98.3	1207	4	Sequence 7, Appli
8	6044.5	92.8	1227	3	Sequence 2, Appli
9	5413.5	83.1	1229	1	Sequence 4, Appli
10	5413.5	83.1	1229	1	Sequence 4, Appli
11	5413.5	83.1	1229	1	Sequence 4, Appli
12	5413.5	83.1	1229	2	Sequence 4, Appli
13	5413.5	83.1	1229	2	Sequence 4, Appli
14	5350.5	82.1	1227	1	Sequence 8, Appli
15	5350.5	82.1	1227	3	Sequence 8, Appli
16	4549	69.8	1186	3	Sequence 9, Appli
17	3739	57.4	1170	1	Sequence 23, Appli
18	3731.5	57.3	1167	1	Sequence 2, Appli
19	3731.5	57.3	1167	1	Sequence 2, Appli
20	3731.5	57.3	1167	1	Sequence 2, Appli
21	3731.5	57.3	1167	2	Sequence 2, Appli
22	3731.5	57.3	1167	2	Sequence 2, Appli
23	3572	54.8	1174	1	Sequence 2, Appli
24	3572	54.8	1174	1	Sequence 3, Appli
25	3572	54.8	1174	2	Sequence 2, Appli
26	3572	54.8	1174	5	Sequence 2, Appli
27	3572	54.8	1174	6	Sequence 2, Appli

Patent No. 5164180-4

## ALIGNMENTS

## RESULT 1

US-07-951-715A-7  
; Sequence 7, Application US/07951715A  
; Patent No. 5625136

## GENERAL INFORMATION:

APPLICANT: Koziel, Michael G.  
APPLICANT: Desai, Nalini M.  
APPLICANT: Lewis, Kelly S.  
APPLICANT: Kramer, Vance C.  
APPLICANT: Warren, Gregory W.  
APPLICANT: Evola, Stephen V.  
APPLICANT: Crossland, Lyle D.  
APPLICANT: Wright, Martha S.  
APPLICANT: Merlin, Ellis J.  
APPLICANT: Launis, Karen L.  
APPLICANT: Rothstein, Steven J.  
APPLICANT: Bowman, Cindy G.  
APPLICANT: Dawson, John L.  
APPLICANT: Dunder, Erik M.  
APPLICANT: Pace, Gary M.  
APPLICANT: Suttie, Janet L.

TITLE OF INVENTION: SYNTHETIC DNA SEQUENCE HAVING ENHANCED  
TITLE OF INVENTION: INSECTICIDAL ACTIVITY IN MAIZE

NUMBER OF SEQUENCES: 94

CORRESPONDENCE ADDRESSES:

ADDRESSEE: CIBA-GEIGY Corporation

STREET: 7 Skyline Drive

CITY: Hawthorne

STATE: New York

COUNTRY: USA

ZIP: 10532

COMPUTER READABLE FORM:

MEDIUM TYPE: Floppy disk

COMPUTER: IBM PC compatible

OPERATING SYSTEM: PC-DOS/MS-DOS

SOFTWARE: PatentIn Release #1.0, Version #1.30B

CURRENT APPLICATION DATA:

APPLICATION NUMBER: US/07/951,715A

FILING DATE: 25-SEP-1992

CLASSIFICATION: 800

PRIOR APPLICATION DATA:

APPLICATION NUMBER: US 07/772,027

FILING DATE: 04-OCT-1991

ATTORNEY/AGENT INFORMATION:

NAME: Spruill, W. Murray

REGISTRATION NUMBER: 32,943

REFERENCE/DOCKET NUMBER: S-18805/A/CGC 1577/CIP

TELECOMMUNICATION INFORMATION:

TELEPHONE: (919)541-8615

TELEFAX: (919)541-8689

Sequence 2, Appli  
Sequence 4, Appli  
Sequence 4, Appli  
Sequence 4, Appli  
Sequence 59, Appli  
Sequence 59, Appli  
Sequence 59, Appli  
Sequence 59, Appli  
Sequence 2, Appli  
Sequence 2, Appli  
Sequence 2, Appli  
Sequence 2, Appli  
Sequence 2, Appli  
Sequence 2, Appli  
Sequence 10, Appli  
Sequence 10, Appli  
Sequence 10, Appli

; INFORMATION FOR SEQ ID NO: 7:  
 ; SEQUENCE CHARACTERISTICS:  
 ; LENGTH: 1207 amino acids  
 ; TYPE: amino acid  
 ; TOPOLOGY: linear  
 ; MOLECULE TYPE: protein  
 ; US-07-951-715A-7

Query Match	98.3%	Score 6405;	DB 1;	Length 1207;
Best Local Similarity	99.9%	Pred. No. 0;		
Matches 1206;	Conservative 1;	Mismatches 0;	Indels 0;	Gaps 0;

  

QY	22	MDLLPDARIEDSLICIAEGNNIDPFVSASTVQTGINIAGRIILGVLPAGQLASFSYFLV	81
DB	1	MDLLPDARIEDSLICIAEGNNIDPFVSASTVQTGINIAGRIILGVLPAGQLASFSYFLV	60
QY	82	GELWPRGRDQWEIFLEHVEQLINQITENARNALARIQLGLGDSFRAYQOSLEDWLENRD	141
DB	61	GELWPRGRDQWEIFLEHVEQLINQITENARNALARIQLGLGDSFRAYQOSLEDWLENRD	120
QY	142	DARTSVLHTQVIALELDFLNAFPLFAIRNOEVPILMVYAOAANLHLLLRDASLFGSEF	201
DB	121	DARTSVLHTQVIALELDFLNAFPLFAIRNOEVPILMVYAOAANLHLLLRDASLFGSEF	180
QY	202	GLTSQEIQRYYERQVTRDYSDYCVWYNTGLSLRGNTNAASVRYNQFRDLTLGVLD	261
DB	181	GLTSQEIQRYYERQVTRDYSDYCVWYNTGLSLRGNTNAASVRYNQFRDLTLGVLD	240
QY	262	LVALPFSVDTRYPIINTSAQLTREYVTDAGATGVNMAAMNNNAPFSFAIAAAIRS	321
DB	241	LVALPFSVDTRYPIINTSAQLTREYVTDAGATGVNMAAMNNNAPFSFAIAAAIRS	300
QY	322	PHLLDFLEOLITIFSASSRWSNRHMYRGTIQSRPIGGGLNTSTHGATNTSINPVTLR	381
DB	301	PHLLDFLEOLITIFSASSRWSNRHMYRGTIQSRPIGGGLNTSTHGATNTSINPVTLR	360
QY	382	FASRDVYRTESVAGVLLGIVLEPIHGVTVRFTNPNQISDRGTANYSPQYSPGLQL	441
DB	361	FASRDVYRTESVAGVLLGIVLEPIHGVTVRFTNPNQISDRGTANYSPQYSPGLQL	420
QY	442	KDSELPETTERNYESYSHRLSHIGIILQSRVNVVYVSWTHRSADRTNIGPNRITQ	501
DB	421	KDSELPETTERNYESYSHRLSHIGIILQSRVNVVYVSWTHRSADRTNIGPNRITQ	480
QY	502	IPMKVASELPQCTTVVRPGFTGGDILRRNTMTGGPIRVTVNGPLTORVIGRIFYASTV	561
DB	481	IPMKVASELPQCTTVVRPGFTGGDILRRNTMTGGPIRVTVNGPLTORVIGRIFYASTV	540
QY	562	DFDFVSRGGTIVNNFRFLRTVNSGDELKYNFVRRAPTFTPTQIQDIIRTSIQGLSG	621
DB	541	DFDFVSRGGTIVNNFRFLRTVNSGDELKYNFVRRAPTFTPTQIQDIIRTSIQGLSG	600
QY	622	NGEVYIDKIEIIPVATFAEVDLERAEVNAALFTNTNPRRLKTDVTDHIDQVSNLVA	681
DB	601	NGEVYIDKIEIIPVATFAEVDLERAEVNAALFTNTNPRRLKTDVTDHIDQVSNLVA	660
QY	682	CLSDFCDEKLEKLEKVKYAKRLSDERNLLQDPNFTSINKQDPFISTNEOSNFTSHEQ	741
DB	661	CLSDFCDEKLEKLEKVKYAKRLSDERNLLQDPNFTSINKQDPFISTNEOSNFTSHEQ	720
QY	742	SEHGWMGSENITIQEGNDVFNKENVVTLPGTNECYPTVLYKIGISELKAYTRYQLRGYI	801
DB	721	SEHGWMGSENITIQEGNDVFNKENVVTLPGTNECYPTVLYKIGISELKAYTRYQLRGYI	780
QY	802	EDSODLEIYLRVNAKHETLDVPGTESLWPLSVESPIGRCEPNRCAPHFENWPDLDSC	861
DB	781	EDSODLEIYLRVNAKHETLDVPGTESLWPLSVESPIGRCEPNRCAPHFENWPDLDSC	840
QY	862	RDGEKCAHSHHFLSDIDVCGTDLHENLGVVWVFKIKTQEGHARLGNLEFIEEKPLLGEA	921
DB	841	RDGEKCAHSHHFLSDIDVCGTDLHENLGVVWVFKIKTQEGHARLGNLEFIEEKPLLGEA	900
QY	922	LSRVKRAEKKWRDKREKLQLETKRVYTEAKVDALFVDSQYDRQLQADTNGIMHAADKL	981

RESULT 2

US-08-459-448A-7  
 ; Sequence 7, Application US/08459448A  
 ; Patent No. 5859336  
 ; GENERAL INFORMATION:  
 ; APPLICANT: Koziel, Michael G.  
 ; APPLICANT: Desai, Nalini M.  
 ; APPLICANT: Lewis, Kelly S.  
 ; APPLICANT: Kramer, Vance C.  
 ; APPLICANT: Warren, Gregory W.  
 ; APPLICANT: Evola, Stephen V.  
 ; APPLICANT: Crossland, Lyle D.  
 ; APPLICANT: Wright, Martha S.  
 ; APPLICANT: Merlin, Ellis J.  
 ; APPLICANT: Launis, Karen L.  
 ; APPLICANT: Rothstein, Steven J.  
 ; APPLICANT: Bowman, Cindy G.  
 ; APPLICANT: Dawson, John L.  
 ; APPLICANT: Dunder, Erik M.  
 ; APPLICANT: Pace, Gary M.  
 ; APPLICANT: Suttie, Janet L.  
 ; TITLE OF INVENTION: SYNTHETIC DNA SEQUENCE HAVING ENHANCED  
 ; TITLE OF INVENTION: INSECTICIDAL ACTIVITY IN MAIZE  
 ; NUMBER OF SEQUENCES: 94  
 ; CORRESPONDENCE ADDRESS:  
 ; ADDRESSEE: No. 5859336artis Corporation  
 ; STREET: Patent & Trademark Dept., 520 White Plains  
 ; CITY: Tarrytown  
 ; STATE: New York  
 ; COUNTRY: USA  
 ; ZIP: 10591-9005  
 ; COMPUTER READABLE FORM:  
 ; MEDIUM TYPE: Floppy disk  
 ; COMPUTER: IBM PC compatible  
 ; OPERATING SYSTEM: PC-DOS/MS-DOS  
 ; SOFTWARE: PatentIn Release #1.0, Version #1.30  
 ; CURRENT APPLICATION DATA:  
 ; APPLICATION NUMBER: US/08/459,448A  
 ; FILING DATE: 02-JUN-1995  
 ; CLASSIFICATION: 800  
 ; PRIOR APPLICATION DATA:  
 ; APPLICATION NUMBER: US 07/951,715  
 ; FILING DATE: 25-SEP-1992  
 ; PRIOR APPLICATION DATA:  
 ; APPLICATION NUMBER: US 07/772,027  
 ; FILING DATE: 04-OCT-1991  
 ; ATTORNEY/AGENT INFORMATION:  
 ; NAME: Pace, Gary M.

REGISTRATION NUMBER: 40403  
REFERENCE/DOCKET NUMBER: CGC 1577/CIP/DIV4  
TELECOMMUNICATION INFORMATION:  
TELEPHONE: (919)541-8582  
TELEFAX: (919)541-8689  
INFORMATION FOR SEQ ID NO: 7:  
SEQUENCE CHARACTERISTICS:  
LENGTH: 1207 amino acids  
TYPE: amino acid  
TOPOLOGY: linear  
MOLECULE TYPE: protein  
US-08-459-448A-7

Query Match 98.3%; Score 6405; DB 2; Length 1207;

Best Local Similarity 99.9%; Pred. No. 0;  
Matches 1206; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

Qy	22	MDLLPDAIEDSLCIAEGNNIDPFVSASTVGTGINIAGRIILGVLPVAGQASGFYSFLV	81
Db	1	MDLLPDAIEDSLCIAEGNNIDPFVSASTVGTGINIAGRIILGVLPVAGQASGFYSFLV	60
Qy	82	GELMPGRDQWEI FLEHVEQLINQOITENARTALARLQGLGDSFRAYQQSLEDWLENRD	141
Db	61	GELMPGRDQWEI FLEHVEQLINQOITENARTALARLQGLGDSFRAYQQSLEDWLENRD	120
Qy	142	DARTRSVLHTQYIALELDFINAMPLFAIRNQEVELLMVYQAANLHLLLRDASLFGSEF	201
Db	121	DARTRSVLHTQYIALELDFINAMPLFAIRNQEVELLMVYQAANLHLLLRDASLFGSEF	180
Qy	202	GLTQSEIQRYVEROVRTDYSYCVWYNTGLSLRGCTNAASVRYNQPRRDLTLGVLD	261
Db	181	GLTQSEIQRYVEROVRTDYSYCVWYNTGLSLRGCTNAASVRYNQPRRDLTLGVLD	240
Qy	262	LVALFPSSYDTRTYPIINTSAQLTREYVTDIAGATGVNMAWMNNPNSFSAIAAAIRS	321
Db	241	LVALFPSSYDTRTYPIINTSAQLTREYVTDIAGATGVNMAWMNNPNSFSAIAAAIRS	300
Qy	322	PHLLDFLEQLTIFASASSWSNTRHMYWRGHTIQSRPIGGGLNTSTHGATNTSINPVTLR	381
Db	301	PHLLDFLEQLTIFASASSWSNTRHMYWRGHTIQSRPIGGGLNTSTHGATNTSINPVTLR	360
Qy	382	FASRDVYRTESVAGVLLGWILEPITHGVPTVRENTNPQNSDRGTANYSPYSPGLQL	441
Db	361	FASRDVYRTESVAGVLLGWILEPITHGVPTVRENTNPQNSDRGTANYSPYSPGLQL	420
Qy	442	KDSELTPEPETERPNYESYSHRLSHIGIILQSRVNVVSVWTHRSADRTNTIGPNRITQ	501
Db	421	KDSELTPEPETERPNYESYSHRLSHIGIILQSRVNVVSVWTHRSADRTNTIGPNRITQ	480
Qy	502	IPMKASBLPGQTTVVRGPGTGGDILRRNTNGGPGPIRVTVNGPLTQRYRIGFRYASTV	561
Db	481	IPMKASBLPGQTTVVRGPGTGGDILRRNTNGGPGPIRVTVNGPLTQRYRIGFRYASTV	540
Qy	562	DFDFPVSRGTTVNNFRILRTMNSGDELKYNFVRAETFTFTQIODIIRTSIQGLSG	621
Db	541	DFDFPVSRGTTVNNFRILRTMNSGDELKYNFVRAETFTFTQIODIIRTSIQGLSG	600
Qy	622	NGEVYDKIEIIPVATPEAEYDLERAQEVNVALFTNTNPRRLKTDVTDYHIDQVSNLVA	681
Db	601	NGEVYDKIEIIPVATPEAEYDLERAQEVNVALFTNTNPRRLKTDVTDYHIDQVSNLVA	660
Qy	682	CLSDFECLDEKRELEKVKYAKRLSDERNLLQDPNFTSINKQDPFISTNEQSNFTSIHEQ	741
Db	661	CLSDFECLDEKRELEKVKYAKRLSDERNLLQDPNFTSINKQDPFISTNEQSNFTSIHEQ	720
Qy	742	SEHGWSGENTIQEGNDVFNENYVTLPGTFNECPTLYKIGISELKAATRYQLRGYI	801
Db	721	SEHGWSGENTIQEGNDVFNENYVTLPGTFNECPTLYKIGISELKAATRYQLRGYI	780
Qy	802	EDSODLEYLYRYNAKHETLDVPGTESLWPLSVESPIGRCGEPNRCAPHEFWNPDLDCSC	861
Db	781	EDSODLEYLYRYNAKHETLDVPGTESLWPLSVESPIGRCGEPNRCAPHEFWNPDLDCSC	840

Qy	862	RDGEKCAHSHHFSLDIDVGCTDLHENLGVVWVFKIKTOEGHARLGNLEPIEEKPLLGEA	921
Db	841	RDGEKCAHSHHFSLDIDVGCTDLHENLGVVWVFKIKTOEGHARLGNLEPIEEKPLLGEA	900
Qy	922	LSRVKRAEKKWRDKREKLQLETKRVYTEAKEAVDALFVDSQYDRLOADTNGIMHAADKL	981
Db	901	LSRVKRAEKKWRDKREKLQLETKRVYTEAKEAVDALFVDSQYDRLOADTNGIMHAADKL	960
Qy	982	VHRIREAYLSELPIVPGVNAEIPFEELEGHITAIISLYDARNVVKNGDFNNGLTCWNVKGH	1041
Db	961	VHRIREAYLSELPIVPGVNAEIPFEELEGHITAIISLYDARNVVKNGDFNNGLTCWNVKGH	1020
Qy	1042	VDVQOSSHRSDLVPIPEWEAEVSQAVRVCPCGGYILRTVYAYKEGEGCVTTHIENNTDE	1101
Db	1021	VDVQOSSHRSDLVPIPEWEAEVSQAVRVCPCGGYILRTVYAYKEGEGCVTTHIENNTDE	1080
Qy	1102	LKPKNREEEVYPTDGTCTNDYTAHQGTAGACACNSRNAGYEDAYEDVDTTASVNYKPTY	1161
Db	1081	LKPKNREEEVYPTDGTCTNDYTAHQGTAGACACNSRNAGYEDAYEDVDTTASVNYKPTY	1140
Qy	1162	EEETVTVDRDNHCEYDRGVYVPPVAGVYTKLEYFPETDTVWIEIGETEGKPIVDSV	1221
Db	1141	EEETVTVDRDNHCEYDRGVYVPPVAGVYTKLEYFPETDTVWIEIGETEGKPIVDSV	1200
Qy	1222	ELLMEEE 1228	
Db	1201	ELLMEEE 1207	

## RESULT 3

US-08-459-595A-7  
; Sequence 7, Application US/08459595A  
; Patent No. 6018104  
; GENERAL INFORMATION:  
; APPLICANT: Koziel, Michael G.  
; APPLICANT: Desai, Nalini M.  
; APPLICANT: Lewis, Kelly S.  
; APPLICANT: Kramer, Vance C.  
; APPLICANT: Warren, Gregory W.  
; APPLICANT: Evola, Stephen V.  
; APPLICANT: Crossland, Lyle D.  
; APPLICANT: Wright, Martha S.  
; APPLICANT: Merlin, Ellis J.  
; APPLICANT: Launis, Karen L.  
; APPLICANT: Rothstein, Steven J.  
; APPLICANT: Bowman, Cindy G.  
; APPLICANT: Dawson, John L.  
; APPLICANT: Dunder, Erik M.  
; APPLICANT: Pace, Gary M.  
; APPLICANT: Suttie, Janet L.  
; TITLE OF INVENTION: SYNTHETIC DNA SEQUENCE HAVING ENHANCED  
; TITLE OF INVENTION: INSECTICIDAL ACTIVITY IN MAIZE  
; NUMBER OF SEQUENCES: 94  
; CORRESPONDENCE ADDRESS:  
; ADDRESSEE: No. 6018104artis Corporation  
; STREET: Patent & Trademark Dept., 520 White Plains  
; STREET: Rd., POB 2005  
; CITY: Tarrytown  
; STATE: New York  
; COUNTRY: USA  
; ZIP: 10591-9005  
; COMPUTER READABLE FORM:  
; MEDIUM TYPE: Floppy disk  
; COMPUTER: IBM PC compatible  
; OPERATING SYSTEM: PC-DOS/MS-DOS  
; SOFTWARE: Patentin Release #1.0, Version #1.30  
; CURRENT APPLICATION DATA:  
; APPLICATION NUMBER: US/08/459,595A  
; FILING DATE: 02-JUN-1995  
; CLASSIFICATION: 800  
; PRIOR APPLICATION DATA:  
; APPLICATION NUMBER: US 07/951,715  
; FILING DATE: 25-SEP-1992

; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 07/772,027
; FILING DATE: 04-OCT-1991
; ATTORNEY/AGENT INFORMATION:
; NAME: Pace, Gary M.
; REGISTRATION NUMBER: 40403
; REFERENCE/DOCKET NUMBER: CGC 1577/CIP/DIV3
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (919)541-8582
; TELEFAX: (919)541-8689
; INFORMATION FOR SEQ ID NO: 7:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 1207 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: protein
US-08-459-595A-7

Query Match 98.3%; Score 6405; DB 3; Length 1207;
Best Local Similarity 99.9%; Pred. No. 0;
Matches 1206; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

Qy 22 MDLLPDARIESLCTAEGNNIDPFVSASTVQTGINIAGRIILGVLPAGQLASFYSLV 81
Db 1 MDLLPDARIESLCTAEGNNIDPFVSASTVQTGINIAGRIILGVLPAGQLASFYSLV 60

Qy 82 GELWPRGRDQWEIFLEHVEQLINQOITENARTALARIQGLGDSFRAYQOQSLDQWLENRD 141
Db 61 GELWPRGRDQWEIFLEHVEQLINQOITENARTALARIQGLGDSFRAYQOQSLDQWLENRD 120

Qy 142 DARTSVLHTQVIALELDFLNAFLFAIRNOEVLPMVYAQAANLHLLLRDASLFGSEF 201
Db 121 DARTSVLHTQVIALELDFLNAFLFAIRNOEVLPMVYAQAANLHLLLRDASLFGSEF 180

Qy 202 GLTSEIQRVYERQVTRDSDYCVWYNTGLNSLRGTNAASVRYNQFRDRLTLGLVD 261
Db 181 GLTSEIQRVYERQVTRDSDYCVWYNTGLNSLRGTNAASVRYNQFRDRLTLGLVD 240

Qy 262 LVALPSPYDTRYPINTSAQLTREYVTDATGATGVNMAWMYNNAPSFSAIAAAIARS 321
Db 241 LVALPSPYDTRYPINTSAQLTREYVTDATGATGVNMAWMYNNAPSFSAIAAAIARS 300

Qy 322 PHLLDFLEQLTIFSSASSRWSNRHMTYWRGHTIQSRPIGGGLNTSTHGATNTSINPVTLR 381
Db 301 PHLLDFLEQLTIFSSASSRWSNRHMTYWRGHTIQSRPIGGGLNTSTHGATNTSINPVTLR 360

Qy 382 FASRDVYRTESYAGVLLGWILEPHGVPTVRFTNPQNSDRGTANYSPQYSPGLQL 441
Db 361 FASRDVYRTESYAGVLLGWILEPHGVPTVRFTNPQNSDRGTANYSPQYSPGLQL 420

Qy 442 KDSETELPETTERPNYESYSHRLSHIGIILQSRVNVVPVSWTHRSADRTNTIGPNRITQ 501
Db 421 KDSETELPETTERPNYESYSHRLSHIGIILQSRVNVVPVSWTHRSADRTNTIGPNRITQ 480

Qy 502 IPMKVASELPQGTTVVRGPGFTGGDILRRNTTGGFPIRVTVNGPLTQRYRIGFRYASTV 561
Db 481 IPMKVASELPQGTTVVRGPGFTGGDILRRNTTGGFPIRVTVNGPLTQRYRIGFRYASTV 540

Qy 562 DFDVFSVGGTTVNNFRFLRTMNSGDELKYNFVRRAFTTPTFTQIQDIIRTSIQGLSG 621
Db 541 DFDVFSVGGTTVNNFRFLRTMNSGDELKYNFVRRAFTTPTFTQIQDIIRTSIQGLSG 600

Qy 622 NGEVYIDKIEIIPVATFEAEVDLERAQAVNALFTNTNPRRLKTDVTDYHIDQVSNLVA 681
Db 601 NGEVYIDKIEIIPVATFEAEVDLERAQAVNALFTNTNPRRLKTDVTDYHIDQVSNLVA 660

Qy 682 CLSDFCLDEKRELLEKVKYAKRLSDERNLLQDPNFTSINKQDPFISTNEQSNFTSIHEQ 741
Db 661 CLSDFCLDEKRELLEKVKYAKRLSDERNLLQDPNFTSINKQDPFISTNEQSNFTSIHEQ 720

Qy 742 SEHGWMGSENITIQEGNDVFKNYVTLPGTFNECYPTLYKIGISELKAATRYQLRGYI 801
Db 721 SEHGWMGSENITIQEGNDVFKNYVTLPGTFNECYPTLYKIGISELKAATRYQLRGYI 780

RESULT 4
US-08-459-504B-7
; Sequence 7, Application US/08459504B
; Patent No. 6075185
; GENERAL INFORMATION:
; APPLICANT: Koziel, Michael G.
; APPLICANT: Desai, Nalini M.
; APPLICANT: Lewis, Kelly S.
; APPLICANT: Kramer, Vance C.
; APPLICANT: Warren, Gregory W.
; APPLICANT: Evola, Stephen V.
; APPLICANT: Crossland, Lyle D.
; APPLICANT: Wright, Martha S.
; APPLICANT: Launis, Karen L.
; APPLICANT: Rothstein, Steven J.
; APPLICANT: Bowman, Cindy G.
; APPLICANT: Dawson, John L.
; APPLICANT: Dunder, Erik M.
; APPLICANT: Pace, Gary M.
; APPLICANT: Suttie, Janet L.
; TITLE OF INVENTION: SYNTHETIC DNA SEQUENCE HAVING ENHANCED
; TITLE OF INVENTION: INSECTICIDAL ACTIVITY IN MAIZE
; NUMBER OF SEQUENCES: 94
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: NO. 6075185artis Corporation
; STREET: 3054 Cornwalis Road
; CITY: Research Triangle Park
; STATE: NC
; COUNTRY: USA
; ZIP: 27709
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/459,504B
; FILING DATE:

CLASSIFICATION:  
PRIOR APPLICATION DATA: US 08/459,595  
FILING DATE: 02-JUN-1995  
APPLICATION NUMBER: US 07/951,715  
FILING DATE: 25-SEP-1992  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: US 07/772,027  
FILING DATE: 04-OCT-1991  
ATTORNEY/AGENT INFORMATION:  
NAME: Meigs, J. Timothy  
REGISTRATION NUMBER: 38,241  
REFERENCE/DOCKET NUMBER: CGC1577/CIP/DIV  
TELECOMMUNICATION INFORMATION:  
TELEPHONE: (919)541-8587  
TELEFAX: (919)541-8689  
INFORMATION FOR SEQ ID NO: 7:  
SEQUENCE CHARACTERISTICS:  
LENGTH: 1207 amino acids  
TYPE: amino acid  
TOPOLOGY: linear  
MOLECULE TYPE: protein  
US-08-459-504B-7

Query Match 98.3%; Score 6405; DB 3; Length 1207;  
Best Local Similarity 99.9%; Pred. No. 0;  
Matches 1206; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

Qy	22	MDLLPDARIEDSLCIAEGNNDPFFVSASTVGTGINIAGRIILGVLPVFPAGQALAFYSFLV	81
Db	1	MDLLPDARIEDSLCIAEGNNDPFFVSASTVGTGINIAGRIILGVLPVFPAGQALAFYSFLV	60
Qy	82	GELMPRGDQWEI FLEHVEQLINQOITENARNTALARIQLGSDSFRAQQSLEDWLENRD	141
Db	61	GELMPRGDQWEI FLEHVEQLINQOITENARNTALARIQLGSDSFRAQQSLEDWLENRD	120
Qy	142	DARTRSVLHTQYIALELDFNAMPLFAIRNOVEPLLMYQAANLHLLLDASLFGSEF	201
Db	121	DARTRSVLHTQYIALELDFNAMPLFAIRNOVEPLLMYQAANLHLLLDASLFGSEF	180
Qy	202	GLTSQEIQRYYERQVERTRDYSYCVWYNTGLNSLGRGTNAASWVRNQPRRDLTLGLVD	261
Db	181	GLTSQEIQRYYERQVERTRDYSYCVWYNTGLNSLGRGTNAASWVRNQPRRDLTLGLVD	240
Qy	262	LVALFPSTYDTRTYINTSAQLTREYTTDAIGATGVNMAWNNAPSPSAIAEAAIRS	321
Db	241	LVALFPSTYDTRTYINTSAQLTREYTTDAIGATGVNMAWNNAPSPSAIAEAAIRS	300
Qy	322	PHLLDFLEQLTIFSSASSRWSNTRHMTYWRGHTIQSRPIGGGLNTSTHGATNTSINPVTLR	381
Db	301	PHLLDFLEQLTIFSSASSRWSNTRHMTYWRGHTIQSRPIGGGLNTSTHGATNTSINPVTLR	360
Qy	382	FASRDVYRTESVAGVLLMGIVLEPHGVPTVRNFTNPQNSDRGTANYSPQYSPGLQL	441
Db	361	FASRDVYRTESVAGVLLMGIVLEPHGVPTVRNFTNPQNSDRGTANYSPQYSPGLQL	420
Qy	442	KDSELPETTERPNYESYSHRLSHIGIILQSRVNVVSVWTHRSADRTNTIGPNRITQ	501
Db	421	KDSELPETTERPNYESYSHRLSHIGIILQSRVNVVSVWTHRSADRTNTIGPNRITQ	480
Qy	502	IPMKASLPQGTTVVRPGTGGDILRRNTGFGPIRVTVNGPLTORVIGFRYASTV	561
Db	481	IPMKASLPQGTTVVRPGTGGDILRRNTGFGPIRVTVNGPLTORVIGFRYASTV	540
Qy	562	DFDFVSRGGTTVNFRFLRTWNSGDELKYNFVRRAFTTPTFTQDIIRTSIQGLSG	621
Db	541	DFDFVSRGGTTVNFRFLRTWNSGDELKYNFVRRAFTTPTFTQDIIRTSIQGLSG	600
Qy	622	NGEVYDKIEIIPVATPEAEYDLERAQEAVALFTNTNPRRLKTDVTDYHIDQVSNLVA	681
Db	601	NGEVYDKIEIIPVATPEAEYDLERAQEAVALFTNTNPRRLKTDVTDYHIDQVSNLVA	660
Qy	682	CLSDEFCLDEKRELLEKVKYAKRLSDERNLLQDPNFTSINKQDPFISTNEQSNFTSIHEQ	741

Db	661	CLSDEFCLDEKRELLEKVKYAKRLSDERNLLQDPNFTSINKQDPFISTNEQSNFTSIHEQ	720
Qy	742	SEHGWSGSENIITQEGNDVFKENYVTLPGTFNECYTYLYQKIGESLKYATRYQLRGYI	801
Db	721	SEHGWSGSENIITQEGNDVFKENYVTLPGTFNECYTYLYQKIGESLKYATRYQLRGYI	780
Qy	802	EDSODLBIYLIRYNAKHETLDVPGTESLWPLSVESPIGRGCEPNRCAPHFEPWNPDLDCSC	861
Db	781	EDSODLBIYLIRYNAKHETLDVPGTESLWPLSVESPIGRGCEPNRCAPHFEPWNPDLDCSC	840
Qy	862	RDGEKCAHSHHFSLDIDVGCTDLHENLGVWVVFPIKTOEGHARLGNLEFTEEXPLLGEA	921
Db	841	RDGEKCAHSHHFSLDIDVGCTDLHENLGVWVVFPIKTOEGHARLGNLEFTEEXPLLGEA	900
Qy	922	LSRVKRAEKKWRDKREKLQLETKEVYVTEAEAVDALFVDSQYDRLOADTNIGMHAADKL	981
Db	901	LSRVKRAEKKWRDKREKLQLETKEVYVTEAEAVDALFVDSQYDRLOADTNIGMHAADKL	960
Qy	982	VHRIREAYLSELVPIPGVNAEIPFEELEGHITAIISLYDARNVKNVGNFNNGLTCWNVKGH	1041
Db	961	VHRIREAYLSELVPIPGVNAEIPFEELEGHITAIISLYDARNVKNVGNFNNGLTCWNVKGH	1020
Qy	1042	VDVQOSSHRSDDLVIPEWEAEVSQAVRVCPCGCGYILRTAYKEGEGCVTTHEENNTDE	1101
Db	1021	VDVQOSSHRSDDLVIPEWEAEVSQAVRVCPCGCGYILRTAYKEGEGCVTTHEENNTDE	1080
Qy	1102	LKFKNREEEVYPTDTCNDYTAHQGTAGCADCACNSRNAGYDAYEYDVTASVNYKPTY	1161
Db	1081	LKFKNREEEVYPTDTCNDYTAHQGTAGCADCACNSRNAGYDAYEYDVTASVNYKPTY	1140
Qy	1162	EEETVTVDRNDHCEYDRGVNYPVPAGVYTKLEYFPETDTVMIEIGETEGKPIVDSV	1221
Db	1141	EEETVTVDRNDHCEYDRGVNYPVPAGVYTKLEYFPETDTVMIEIGETEGKPIVDSV	1200
Qy	1222	ELLIMEE 1228	
Db	1201	ELLIMEE 1207	

RESULT 5  
US-08-459-444-7  
Sequence 7, Application US/08459444A  
Patent No. 6121014  
GENERAL INFORMATION:  
APPLICANT: Koziel, Michael G.  
Desai, Nalini M.  
Lewis, Kelly S.  
Kramer, Vance C.  
Warren, Gregory W.  
Evola, Stephen V.  
Crossland, Lyle D.  
Wright, Martha S.  
Merlin, Ellis J.  
Lauis, Karen L.  
TITLE OF INVENTION: METHOD FOR PRODUCING A PLANT-OPTIMIZED  
NUCLEIC ACID CODING SEQUENCE  
NUMBER OF SEQUENCES: 94  
CORRESPONDENCE ADDRESS:  
ADDRESSEE: No. 6121014artis Agribusiness Biotechnology Research, Inc.  
STREET: 3054 Cornwallis Road  
CITY: Research Triangle Park  
STATE: NC  
COUNTRY: USA  
ZIP: 27709  
COMPUTER READABLE FORM:  
MEDIUM TYPE: Floppy disk  
COMPUTER: IBM PC compatible  
OPERATING SYSTEM: PC-DOS/MS-DOS  
SOFTWARE: PatentIn Release #1.0, Version #1.30  
CURRENT APPLICATION DATA:  
APPLICATION NUMBER: US/08/459,444A  
FILING DATE: 02-Jun-1995

CLASSIFICATION: <Unknown>  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: US 07/951,715  
FILING DATE: 25-SEP-1992  
APPLICATION NUMBER: US 07/772,027  
FILING DATE: 04-OCT-1991  
ATTORNEY/AGENT INFORMATION:  
NAME: Meigs, J. Timothy  
REGISTRATION NUMBER: 38,241  
REFERENCE/DOCKET NUMBER: S-18805/P1/CGC1577/CIP/DIV6  
TELECOMMUNICATION INFORMATION:  
TELEPHONE: (919)541-8587  
TELEFAX: (919)541-8689  
INFORMATION FOR SEQ ID NO: 7:  
SEQUENCE CHARACTERISTICS:  
LENGTH: 1207 amino acids  
TYPE: amino acid  
TOPOLOGY: linear  
MOLECULE TYPE: protein  
SEQUENCE DESCRIPTION: SEQ ID NO: 7:  
US-08-459-444-7

Query Match 98.3%; Score 6405; DB 3; Length 1207;  
Best Local Similarity 99.9%; Pred. No. 0;  
Matches 1206; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 22 MDLLPDARIEDSLCIAEGNNIDPFVSASTVQTGINIAGRIILGVLGVPFAGQLASFSYFLV 81  
DB 1 MDLLPDARIEDSLCIAEGNNIDPFVSASTVQTGINIAGRIILGVLGVPFAGQLASFSYFLV 60  
QY 82 GELWPRGRDQWEIFLHVQLINQITENARNTALRLQGLGDSFRAYQCSLEDWLENRD 141  
DB 61 GELWPRGRDQWEIFLHVQLINQITENARNTALRLQGLGDSFRAYQCSLEDWLENRD 120  
QY 142 DARTSVLHTQVIALELDFLNAMPLFAIRNORVPLLMVYAQANLHLLLRDASLFGSEF 201  
DB 121 DARTSVLHTQVIALELDFLNAMPLFAIRNORVPLLMVYAQANLHLLLRDASLFGSEF 180  
QY 202 GLTSQEIQRYYERQVTRDYSYCVWYNTGLNLRGTNAASWVRYNQFRDLTLGLVD 261  
DB 181 GLTSQEIQRYYERQVTRDYSYCVWYNTGLNLRGTNAASWVRYNQFRDLTLGLVD 240  
QY 262 LVALPSPDYTRYPINTSQAQLTRVYTDAGATGVNMAWMYNNNAPSAIAAAIARS 321  
DB 241 LVALPSPDYTRYPINTSQAQLTRVYTDAGATGVNMAWMYNNNAPSAIAAAIARS 300  
QY 322 PHLLDFLEQLTIFSASSRWNTRHMTYWRGHTIQSRPIGGLNTSTHGATNTSINPVTLR 381  
DB 301 PHLLDFLEQLTIFSASSRWNTRHMTYWRGHTIQSRPIGGLNTSTHGATNTSINPVTLR 360  
QY 382 PASRDVYRTESYAGVLLMGVILEPIHGVPVTRFNTNPQNISDRGTANYSPQYESPGLQL 441  
DB 361 PASRDVYRTESYAGVLLMGVILEPIHGVPVTRFNTNPQNISDRGTANYSPQYESPGLQL 420  
QY 442 KDSELPETTERENYSESHLSHIGIILQSRVNVVYVSWTHRSADRTNIGPNRITQ 501  
DB 421 KDSELPETTERENYSESHLSHIGIILQSRVNVVYVSWTHRSADRTNIGPNRITQ 480  
QY 502 IPWVKASELPQGTTVVRGPGTGGDILRRNTGPGPIRVTVNGPLTORVYRIGFRYASTV 561  
DB 481 IPWVKASELPQGTTVVRGPGTGGDILRRNTGPGPIRVTVNGPLTORVYRIGFRYASTV 540  
QY 562 DFDVFSVGGTGVNNFRPLRTWNSGDELKYNFVRRAFTPTFTQIQDIIRTSIQGLSG 621  
DB 541 DFDVFSVGGTGVNNFRPLRTWNSGDELKYNFVRRAFTPTFTQIQDIIRTSIQGLSG 600  
QY 622 NGEVYIDKIEIIPVTATAEVDERAEVNAALFTNPRRLKTDVTDHIDQVSNLVA 681  
DB 601 NGEVYIDKIEIIPVTATAEVDERAEVNAALFTNPRRLKTDVTDHIDQVSNLVA 660  
QY 682 CLSDFCLDEKLELKVYAKRLSDERNLLQDPNFTSINKQDPFISTNEQSNTFSIHEQ 741  
DB 661 CLSDFCLDEKLELKVYAKRLSDERNLLQDPNFTSINKQDPFISTNEQSNTFSIHEQ 720

QY 742 SEHGWMGSENTIOEGNDVPKENYVTLPGTFNECYPTLYQKIGESLKA YTRYQLRGYI 801  
DB 721 SEHGWMGSENTIOEGNDVPKENYVTLPGTFNECYPTLYQKIGESLKA YTRYQLRGYI 780  
QY 802 EDSODLEIYLIRYNAKHETLDVPGTESLWPLSVESPIGRGCEPNRCAPHPFWNPDLDSC 861  
DB 781 EDSODLEIYLIRYNAKHETLDVPGTESLWPLSVESPIGRGCEPNRCAPHPFWNPDLDSC 840  
QY 862 RDGEKCAHSHHFSLDIDVGCTDLHENLGVVWVFKIKTQEGHARLGNLEFEEKPLLGEA 921  
DB 841 RDGEKCAHSHHFSLDIDVGCTDLHENLGVVWVFKIKTQEGHARLGNLEFEEKPLLGEA 900  
QY 922 LSRVKRAEKWRDKREKLOLETKRVYVTEAKVADALFVDSQYDRLOADTNGIMTHAADKL 981  
DB 901 LSRVKRAEKWRDKREKLOLETKRVYVTEAKVADALFVDSQYDRLOADTNGIMTHAADKL 960  
QY 982 VHRIRAYLSLPIPGVNAEIPFEELEGHITATSLYDARNVKNVGNGLTCWNVKGH 1041  
DB 961 VHRIRAYLSLPIPGVNAEIPFEELEGHITATSLYDARNVKNVGNGLTCWNVKGH 1020  
QY 1042 VDVOQSHRSDDLVIPEWEAEVSQAVRVCPGCGYILRVYAYKEGEGCVTIHEIENNTDE 1101  
DB 1021 VDVOQSHRSDDLVIPEWEAEVSQAVRVCPGCGYILRVYAYKEGEGCVTIHEIENNTDE 1080  
QY 1102 LKFKNREEEVYPTDTGTCNDYTAHQGTAGACACNSRNAGYEDAYEDVDTTASVNYKPT 1161  
DB 1081 LKFKNREEEVYPTDTGTCNDYTAHQGTAGACACNSRNAGYEDAYEDVDTTASVNYKPT 1140  
QY 1162 EEEYTDVDRDNHCEYDRGVVYPPVAGVYVTELEYPFETDTWIEIGTEGKFIVDSV 1221  
DB 1141 EEEYTDVDRDNHCEYDRGVVYPPVAGVYVTELEYPFETDTWIEIGTEGKFIVDSV 1200  
QY 1222 ELLMEE 1228  
DB 1201 ELLMEE 1207

RESULT 6  
US-09-053-549-8  
; Sequence 8, Application US/09053549  
; Patent No. 6121521  
; GENERAL INFORMATION:  
; APPLICANT: Desai, Nalini  
; TITLE OF INVENTION: No. 6121521el Insecticidal Protein and Gene  
; NUMBER OF SEQUENCES: 8  
; CORRESPONDENCE ADDRESS:  
; ADDRESSEE: No. 6121521artis Corporation  
; STREET: 3054 Cornwallis Rd.  
; CITY: Research Triangle Park  
; STATE: NC  
; COUNTRY: USA  
; ZIP: 27709  
; COMPUTER READABLE FORM:  
; MEDIUM TYPE: Floppy disk  
; COMPUTER: IBM PC compatible  
; OPERATING SYSTEM: PC-DOS/MS-DOS  
; SOFTWARE: PatentIn Release #1.0, Version #1.30  
; CURRENT APPLICATION DATA:  
; APPLICATION NUMBER: US/09/053,549  
; FILING DATE: 01-APR-1998  
; CLASSIFICATION: 800  
; ATTORNEY/AGENT INFORMATION:  
; NAME: Pace, Gary M.  
; REGISTRATION NUMBER: 40,403  
; REFERENCE/DOCKET NUMBER: CGC 1995  
; TELECOMMUNICATION INFORMATION:  
; TELEPHONE: 919-541-8582  
; TELEFAX: 919-541-8689  
; INFORMATION FOR SEQ ID NO: 8:  
; SEQUENCE CHARACTERISTICS:  
; LENGTH: 1207 amino acids  
; TYPE: amino acid

QY	22	MOLLPDARIBDSICIAEGNNIDPFVSASTVQTGINTIAGRILGVLGVPPFACQLASFSYFLV	81
Db	1	MOLLPDARIBDSICIAEGNNIDPFVSASTVQTGINTIAGRILGVLGVPPFACQLASFSYFLV	60
QY	82	GELWPRGRDQWEI1FLEHVEQLINQOITENARNALTARLOGLGDSFRAYQOSLEDWLENRD	141
Db	61	GELWPRGRDQWEI1FLEHVEQLINQOITENARNALTARLOGLGDSFRAYQOSLEDWLENRD	120
QY	142	DARTSRVLHTQYIALELDLFNAMPLFAIRNQEVPLLMVYAQAANHLHLLLRDASLFGSEF	201
Db	121	DARTSRVLHTQYIALELDLFNAMPLFAIRNQEVPLLMVYAQAANHLHLLLRDASLFGSEF	180
QY	202	GLTSQEIQIYRQVERTRDYSYCYEWWYNTGNSLGRGTNAASWVRYNQPRDLTLGVLD	261
Db	181	GLTSQEIQIYRQVERTRDYSYCYEWWYNTGNSLGRGTNAASWVRYNQPRDLTLGVLD	240
QY	262	LVALFYSYDRTYPIINTSAOLTREVTYDAIGATGVNMASMNWNNNAPSFAEAAAIRS	321
Db	241	LVALFYSYDRTYPIINTSAOLTREVTYDAIGATGVNMASMNWNNNAPSFAEAAAIRS	300
QY	322	PHLLDFLEQLTIFSSASRWSNTRHMTYWRGHTTQSRPIGGGLNSTHGATNTSINPVTLR	381
Db	301	PHLLDFLEQLTIFSSASRWSNTRHMTYWRGHTTQSRPIGGGLNSTHGATNTSINPVTLR	360
QY	382	FASRDVYRTESYAGVLLWGIYLEPIHGVPVTRFNTPNQINSRGRTANYSQPYESQGLQL	441
Db	361	FASRDVYRTESYAGVLLWGIYLEPIHGVPVTRFNTPNQINSRGRTANYSQPYESQGLQL	420
QY	442	KDSETELPPTTERPNVYESYSHRLSHIGIILQSRVNVVYSWTHRSADRNTTIGPNRITQ	501
Db	421	KDSETELPPTTERPNVYESYSHRLSHIGIILQSRVNVVYSWTHRSADRNTTIGPNRITQ	480
QY	502	IPMVKASELPQGTTVVRGPGFTGGDILLRNTTGGFGPIRVTVNGPLTQRYRIGFRYASTV	561
Db	481	IPMVKASELPQGTTVVRGPGFTGGDILLRNTTGGFGPIRVTVNGPLTQRYRIGFRYASTV	540
QY	562	DPDFVFSRGGTTVNNFRFLRTMNSGDELKYGNFVRAPFTPTFTQIDIIRTSIQGLSG	621
Db	541	DPDFVFSRGGTTVNNFRFLRTMNSGDELKYGNFVRAPFTPTFTQIDIIRTSIQGLSG	600
QY	622	NGEVYIDKIBII PVATFTEAEYDLERAQEAVALFNTNPNRLLKTDVTDVHIDQVSNLVA	681
Db	601	NGEVYIDKIBII PVATFTEAEYDLERAQEAVALFNTNPNRLLKTDVTDVHIDQVSNLVA	660
QY	682	CLSDEFCLEKRELLKVKYAKLSOERNLLQDPNFTSINKQDPFISTNEQSNTFSIHEQ	741
Db	661	CLSDEFCLEKRELLKVKYAKLSOERNLLQDPNFTSINKQDPFISTNEQSNTFSIHEQ	720
QY	742	SEHGWGSENIITTOEGNDVPKENYVTLPGTFNECYPYLYQKIGESELKAYTRYQLRGI	801
Db	721	SEHGWGSENIITTOEGNDVPKENYVTLPGTFNECYPYLYQKIGESELKAYTRYQLRGI	780
QY	802	EDSQDLEIYLIRYNAXHETLDVPGTESLWPLSVESPIGRGCEPNRCAHPFEMWNPDDCSC	861
Db	781	EDSQDLEIYLIRYNAXHETLDVPGTESLWPLSVESPIGRGCEPNRCAHPFEMWNPDDCSC	840
QY	862	RDEKCAHSHHPSLDIDVGCTDLHENLGVVYFKITQEGHARLGNLEPIEKPILLGEA	921
Db	841	RDEKCAHSHHPSLDIDVGCTDLHENLGVVYFKITQEGHARLGNLEPIEKPILLGEA	900
QY	922	LSRVKRAEKWRDKREKQLJETKRVYTEAKEAVDALFVDSQYDRLOQADTNIGMHAADKL	981
Db	901	LSRVKRAEKWRDKREKQLJETKRVYTEAKEAVDALFVDSQYDRLOQADTNIGMHAADKL	960
QY	982	VHRIREAYISELPVIGCVNAEIPFEELEGHTITATISLYDARNVYVKGDFNGLTCWNVKGH	1041

TYPE: amino acid  
TOPOLOGY: linear

TOPOLOGY: linear

MOLECULE TYPE: protein  
SEQUENCE DESCRIPTION: SEQ ID NO: 7;  
US-09-547-422-7

Query Match 98.3%; Score 6405; DB 4; Length 1207;  
Best Local Similarity 99.9%; Pred. No. 0;  
Matches 1206; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 22 MDLLPARDTSDLSICAEAGNNIDPFVSASTVQTGINIAGRIILGVLPFAGQIASFYSFLV 81  
DB 1 MDLLPARDTSDLSICAEAGNNIDPFVSASTVQTGINIAGRIILGVLPFAGQIASFYSFLV 60

QY 82 GELWPRGRDQWEIFLEHVEQLINQQTENARNTALARLQGLGDSFRAYQOOSLEDWLENRD 141  
DB 61 GELWPRGRDQWEIFLEHVEQLINQQTENARNTALARLQGLGDSFRAYQOOSLEDWLENRD 120

QY 142 DARTSRVLTQVIALELDFNAMPFLAIRNQEVPLLMVYAQANLHLLLRDASLFGSEF 201  
DB 121 DARTSRVLTQVIALELDFNAMPFLAIRNQEVPLLMVYAQANLHLLLRDASLFGSEF 180

QY 202 GLTSQEIORYYERQVTRDYSDYCVWYNTGLNSLRGTNAASWRYNQFRDLTLGLVD 261  
DB 181 GLTSQEIORYYERQVTRDYSDYCVWYNTGLNSLRGTNAASWRYNQFRDLTLGLVD 240

QY 262 LVALPFSYDTRYPINTSAQLTREVVYTDGATGVNMAWMYNNNAPSFSAIEAAIARS 321  
DB 241 LVALPFSYDTRYPINTSAQLTREVVYTDGATGVNMAWMYNNNAPSFSAIEAAIARS 300

QY 322 PHLLDFLEQLTIFSSASSRNSNRHMYWGHTIQSRPIGGGLNTTHGATNTSINPVTILR 381  
DB 301 PHLLDFLEQLTIFSSASSRNSNRHMYWGHTIQSRPIGGGLNTTHGATNTSINPVTILR 360

QY 382 FASRDVYRTESYAGVLLGIYLEPIHGVTFRFNTNPNQISDRGTANYSPQSPGLQL 441  
DB 361 FASRDVYRTESYAGVLLGIYLEPIHGVTFRFNTNPNQISDRGTANYSPQSPGLQL 420

QY 442 KQSETELPETTERPNYESYSHRLSHIGIILQSRVNVVPYSWTHRSADRTNIGNRITQ 501  
DB 421 KQSETELPETTERPNYESYSHRLSHIGIILQSRVNVVPYSWTHRSADRTNIGNRITQ 480

QY 502 IPWKASELPQGTTVVRGPGFTGGDILRTNTGGFPIRVTVNGPLTQRYRIGRYASTV 561  
DB 481 IPWKASELPQGTTVVRGPGFTGGDILRTNTGGFPIRVTVNGPLTQRYRIGRYASTV 540

QY 562 DFDFVSRGGTTVNNFRFLRTMNSGDELKYGNFVRAFTTPTFTQIQDIIRTSIQGLSG 621  
DB 541 DFDFVSRGGTTVNNFRFLRTMNSGDELKYGNFVRAFTTPTFTQIQDIIRTSIQGLSG 600

QY 622 NGEVYIDKIEIIPVTATPEAEYDLERAQAVNALFTNTNPRRLKTDVTDYHIDQVSNLVA 681  
DB 601 NGEVYIDKIEIIPVTATPEAEYDLERAQAVNALFTNTNPRRLKTDVTDYHIDQVSNLVA 660

QY 682 CLSDFCLDEKRELLEKVKYAKRLSDERNLLQDPNFTSINKQPDFISTNEOSNFTSHEQ 741  
DB 661 CLSDFCLDEKRELLEKVKYAKRLSDERNLLQDPNFTSINKQPDFISTNEOSNFTSHEQ 720

QY 742 SHGWGSGENITIQSGNDVFNKYVTLPTFNECYPTYLYQKIGESLKYATRYQLRGYI 801  
DB 721 SHGWGSGENITIQSGNDVFNKYVTLPTFNECYPTYLYQKIGESLKYATRYQLRGYI 780

QY 802 EDSQLEIYLIRYNNAKHETLDVPGTESLWPLSVESPIRCCEPNRCAPHPFWNPDLCSC 861  
DB 781 EDSQLEIYLIRYNNAKHETLDVPGTESLWPLSVESPIRCCEPNRCAPHPFWNPDLCSC 840

QY 862 RDGEKCAHSHHFSIDIDVGCTDLHENLGVWVVKIKTQEGHARLGNLEFTEEKPLLGEA 921  
DB 841 RDGEKCAHSHHFSIDIDVGCTDLHENLGVWVVKIKTQEGHARLGNLEFTEEKPLLGEA 900

QY 922 LSRVRAEKWRDKREKIQLETKRYVTEAKSAVDALFVDSQYDRQLQADNTNIGMTHAADKL 981  
DB 901 LSRVRAEKWRDKREKIQLETKRYVTEAKSAVDALFVDSQYDRQLQADNTNIGMTHAADKL 960

QY 982 VHIRREAYLSELVPIPGVNAEIFEELGHIITALSIDARNVVKNGDFNNGLTTCNNVKGH 1041

DB 961 VHIRREAYLSELVPIPGVNAEIFEELGHIITALSIDARNVVKNGDFNNGLTTCNNVKGH 1020

QY 1042 VDVQSHHRSDLVPIPEWEAEVSQAVRVCPCGGYILRVTAKEGYGEGCVTIHEIENNTDE 1101  
DB 1021 VDVQSHHRSDLVPIPEWEAEVSQAVRVCPCGGYILRVTAKEGYGEGCVTIHEIENNTDE 1080

QY 1102 LKFKNRBESEVYPTDGTCTCNDYTAHQGTAGACADACNSRNAGYEDAYEVDTTASVNYKPTY 1161  
DB 1081 LKFKNRBESEVYPTDGTCTCNDYTAHQGTAGACADACNSRNAGYEDAYEVDTTASVNYKPTY 1140

QY 1162 BEETVTDVRRDNHCHCEYDRGVNYPVPAGVYTKLEYFPETDVTWIEIGETEGKFIIVDSV 1221  
DB 1141 BEETVTDVRRDNHCHCEYDRGVNYPVPAGVYTKLEYFPETDVTWIEIGETEGKFIIVDSV 1200

QY 1222 ELLMEE 1228  
DB 1201 ELLMEE 1207

RESULT 8  
US-09-053-549-2  
; Sequence 2, Application US/09053549  
; Patent No. 6121521  
; GENERAL INFORMATION:  
; APPLICANT: Desai, Nalini  
; TITLE OF INVENTION: No. 6121521el Insecticidal Protein and Gene  
; NUMBER OF SEQUENCES: 8  
; CORRESPONDENCE ADDRESS:  
; ADDRESSEE: NO. 6121521artis Corporation  
; STREET: 3054 Cornwalis Rd.  
; CITY: Research Triangle Park  
; STATE: NC  
; COUNTRY: USA  
; ZIP: 27709  
; COMPUTER READABLE FORM:  
; MEDIUM TYPE: Floppy disk  
; OPERATING SYSTEM: IBM PC compatible  
; SOFTWARE: Patent In Release #1.0, Version #1.30  
; CURRENT APPLICATION DATA:  
; APPLICATION NUMBER: US/09/053,549  
; FILING DATE: 01-APR-1998  
; CLASSIFICATION: 800  
; ATTORNEY/AGENT INFORMATION:  
; NAME: Pace, Gary M.  
; REGISTRATION NUMBER: 40,403  
; REFERENCE/DOCKET NUMBER: CGC 1995  
; TELECOMMUNICATION INFORMATION:  
; TELEPHONE: 919-541-8582  
; TELEFAX: 919-541-8689  
; INFORMATION FOR SEQ ID NO: 2:  
; SEQUENCE CHARACTERISTICS:  
; LENGTH: 1227 amino acids  
; TYPE: amino acid  
; TOPOLOGY: linear  
; MOLECULE TYPE: protein  
US-09-053-549-2

Query Match 92.8%; Score 6044.5; DB 3; Length 1227;  
Best Local Similarity 93.0%; Pred. No. 0;  
Matches 1147; Conservative 33; Mismatches 42; Indels 11; Gaps 3;

QY 1 LTSNRKNENIINAVSNHSAQMDLLDPDARIEDSLCIAEGNNIDPFVSASTVQTGINIAGR 60  
DB 1 MTSNRKNENIINAVSNHSAQMDLLDPDARIEDSLCIAEGNNIDPFVSASTVQTGINIAGR 60

QY 61 ILGVLPFAGQIASFYSFLVWGLWPRGRDQWEIFLEHVEQLINQQTENARNTALARLQ 120  
DB 61 ILGVLPFAGQIASFYSFLVWGLWPRGRDQWEIFLEHVEQLINQQTENARNTALARLQ 120

QY 121 GLGDSFRAYQOOSLEDWLENRDARTSRVLTQVIALELDFNAMPFLAIRNQEVPLLMVY 180



Db 121 GLGDSFRAYQQSLDLEWLNDRDARTSRVLYTQYIALELDLFLNAMPFLFAIRNQEVPLLMVY 180  
Qy 181 AQAANLHLLLDASLFGSEGLTSQEIQRYYERQVETROYSDYCVWYNTGLNSLRT 240  
Db 181 AQAANLHLLLDASLFGSEGLTSQEIQRYYERQVETROYSDYCVWYNTGLNSLRT 240  
Qy 241 NAASWVRNQFRDLTLGLVDLVALFPGSYDTRTPINTSAQLTREVTYDAIGATGVNMA 300  
Db 241 NAASWVRNQFRDLTLGLVDLVALFPGSYDTRTPINTSAQLTREVTYDAIGATGVNMA 300  
Qy 301 MNWYNNNAPSFAIEAAAIRSHLLDLEQLTIFSSASRWNTHRMTYWRGHTIQSRPIG 360  
Db 301 MNWYNNNAPSFAIEAAAIRSHLLDLEQLTIFSSASRWNTHRMTYWRGHTIQSRPIG 360  
Qy 361 GLMNTSHGATNTSINPVTLPFASRDVYRTSYAGVLLWGLYLEPIHGVPVTRNFNTPQ 420  
Db 361 GLMNTSHGATNTSINPVTLPFASRDVYRTSYAGVLLWGLYLEPIHGVPVTRNFNTPQ 420  
Qy 421 NISDRGTANYSQPESPGQLKDSLETLPPTTERPNYESYSHRLSHIGIILQSRVNPV 480  
Db 421 NISDRGTANYSQPESPGQLKDSLETLPPTTERPNYESYSHRLSHIGIILQSRVNPV 480  
Qy 481 YSWTHRSADRTNTIGPNRITQIPMKASLPGQTVTVRGPQGTGGDILLRNTNTGGFGPIR 540  
Db 481 YSWTHRSADRTNTIGPNRITQIPMKASLPGQTVTVRGPQGTGGDILLRNTNTGGFGPIR 540  
Qy 541 VTVNGPLTQRIQFRVASTVDFDFVSRGTTVNNFRFLRTMNSGDELKYGNFVRAFT 600  
Db 541 VTVNGPLTQRIQFRVASTVDFDFVSRGTTVNNFRFLRTMNSGDELKYGNFVRAFT 600  
Qy 601 TPFTFTQIOLIRISIOGLSGNGEYVDKIBIIPVTATFEAYDLERAQEAVALFNTN 660  
Db 601 TPFTFTQIOLIRISIOGLSGNGEYVDKIBIIPVTATFEAYDLERAQEAVALFNTN 660  
Qy 661 PRLKTDVTDYHIDQVSNLACLDFCLDEKRELLEKVKYAKRLSDERNLLOPNTFSI 720  
Db 661 PRLKTDVTDYHIDQVSNLACLDFCLDEKRELLEKVKYAKRLSDERNLLOPNTFSI 720  
Qy 721 NKQDPFISTNQSNFTSIHQSEHGWSGSENIITQEGNDVFNKENYVTLPGTFNFCYPTYL 780  
Db 721 NKQDPFISTNQSNFTSIHQSEHGWSGSENIITQEGNDVFNKENYVTLPGTFNFCYPTYL 780  
Qy 781 YQKIGESLKYATRYQLRGYLEDSDLEIYLIRYNAXHETLDVPGTSLWPLSVESPIGR 840  
Db 781 YQKIGESLKYATRYQLRGYLEDSDLEIYLIRYNAXHETLDVPGTSLWPLSVESPIGR 840  
Qy 841 CGEPNRCAPHPEWNPDLDCSDGCEKCAHSHHFLSDIDVGCTDLHENLGVWVVPKIKTQ 900  
Db 841 CGEPNRCAPHLEWNPDLDCSDGCEKCAHSHHFLSDIDVGCTDLNEDLGVWVVPKIKTQ 900  
Qy 901 EGHARLGNLEFIEBKPLLGEALSRYKRAEKKWRDKREKLOLETRVYVTEAKEAVDALFVD 960  
Db 901 DGHARLGNLEFIEBKPLLGEALRYKRAEKKWRDKREKLEWETNIVYKEAKESVDALFVN 960  
Qy 961 SOYDLQADTNIGIHAADKLVRHIREAYLSELVPIPGVNAEIIPEBLEGHIITAILSYDA 1020  
Db 961 SOYDLQADTNIAIHAADKRVHSIREAYLSELVPIPGVNAEIIPEBLEGRIIFTAFSLYDA 1020  
Qy 1021 RNWVKGDFNGLTGNVYKGVHDV-QQSHHRSDELVIPEWEAEVSOAVRVCPCGCYILRV 1079  
Db 1021 RNWVKGDFNGLSCWNVYKGVHDVVEEQNNHRSVLVPEWEAEVSOAVRVCPCGCYILRV 1080  
Qy 1080 AYKEGYGEGCVTIIHEIENNTDELKFKNREBEVPTDTGTGTCNDYTA----HQGTAGCADA 1135  
Db 1081 AYKEGYGEGCVTIIHEIENNTDELKFKNREBEVPTDTGTGTCNDYTAQOEVEGT----- 1134  
Qy 1136 CNSRNAGVEDAYVDVTASVNYKPTYBEETVTVRRONHCHYDRGVNYPVPAGYVTK 1195  
Db 1135 YTSNRNGYDGAESNSVPADYASAYBEKAYTGDGRONPCESNRGCGYDTPPLPAGYVTK 1194  
Qy 1196 LEYFPETDVTWIEIGETEGKFIIVDSVELLME 1228  
Db 1195 LEYFPETDVKWIEIGETEGTIFVDSVELLME 1227

RESULT 9  
US-08-100-709-4  
; Sequence 4, Application us/08100709.  
; Patent No. 5323687  
; GENERAL INFORMATION:  
; APPLICANT: Donovan, William P.  
; APPLICANT: Tan, Yiping  
; APPLICANT: Jany, Christine S.  
; TITLE OF INVENTION: BACILLUS THURINGIENSIS CYVET4 AND CYVET5  
; TITLE OF INVENTION: TOXIN GENES AND PROTEINS TOXIC TO LEPIDOPTERAN INSECTS  
; NUMBER OF SEQUENCES: 5  
; CORRESPONDENCE ADDRESS:  
; ADDRESSEE: Panitch Schwarze Jacobs & Nadel c/o A.S.  
; ADDRESS: Nadel  
; STREET: 1601 Market Street, 36th Floor  
; CITY: Philadelphia  
; STATE: Pennsylvania  
; COUNTRY: U.S.A.  
; ZIP: 19103  
; COMPUTER READABLE FORM:  
; MEDIUM TYPE: Floppy disk  
; COMPUTER: IBM PC compatible  
; OPERATING SYSTEM: PC-DOS/MS-DOS  
; SOFTWARE: Patent In Release #1.0, Version #1.25  
; CURRENT APPLICATION DATA:  
; APPLICATION NUMBER: US/08/100,709  
; FILING DATE: 19930729  
; CLASSIFICATION: 514  
; ATTORNEY/AGENT INFORMATION:  
; NAME: Egolf, Christopher  
; REGISTRATION NUMBER: 27633  
; REFERENCE/DOCKET NUMBER: 7205-49  
; TELECOMMUNICATION INFORMATION:  
; TELEPHONE: 215-757-1590  
; INFORMATION FOR SEQ ID NO: 4:  
; SEQUENCE CHARACTERISTICS:  
; LENGTH: 1229 amino acids  
; TYPE: amino acid  
; TOPOLOGY: linear  
; MOLECULE TYPE: protein  
US-08-100-709-4

Query Match 83.1%; Score 5413.5; DB 1; Length 1229;  
Best Local Similarity 82.6%; Pred. No. 0;  
Matches 1021; Conservative 74; Mismatches 126; Indels 15; Gaps 6;  
Qy 1 LTSNRKNENIINA-----VSNHSAQMDLLPDARIEDSLCIAEGNNIDPFVSASTVGTGI 55  
Db 1 LTSNRKNENIINALSIPTVSNPSTQNLSPDARIEDSLCVAEWNNDPFVSASTVGTGI 60  
Qy 56 NIAGRILGLVGVFPAGQALFASFLVGLVGLVGLVGLVGLVGLVGLVGLVGLVGLVGLVGLV 115  
Db 61 NIAGRILGLVGVFPAGQALFASFLVGLVGLVGLVGLVGLVGLVGLVGLVGLVGLVGLVGLV 120  
Qy 116 LARLOGLDGDFRAYQQSLDLEWLNDRDARTSRVLYTQYIALELDLFLNAMPFLFAIRNQEV 175  
Db 121 IARLEGLGRGYRSYQQALETWLDNRDARSILERYVALELDITTAIPLFRINREVP 180  
Qy 176 LMVYAQAANLHLLLDASLFGSEGLTSQEIQRYYERQVETROYSDYCVWYNTGLN 235  
Db 181 LMVYAQAANLHLLLDASLFGSEGLTSQEIQRYYERQVETROYSDYCVWYNTGLN 240  
Qy 236 SLRGNTAASWVRNQFRDLTLGLVDLVALFPGSYDTRTPINTSAQLTREVTYDAIGATG 295  
Db 241 NLRGTNAESWLRNQFRDLTLGLVDLVALFPGSYDTRTPINTSAQLTREVTYDAIGATG 300  
Qy 296 V--NMASMNWYNNAPSFAIEAAIRSHLLDLEQLTIFSSASRWNTHRMTYWRGHT 353  
Db 301 APSGFATNWFNNAPSFAIEAAIRSHLLDLEQLTIFSSASRWNTHRMTYWRGHT 360



QY 533 TGGCPPIRVNGLPQYRIGFRYASTVDFDFVSRGTTNNFRFRTWNSGDELKYG 592  
Db 539 TGTGDIIRLNVPLSQRYRIRYASTVDFDFVSRGTTNNFRFRTWNSGDELKYG 598  
QY 593 NFVRAFTPTFTQIIRTSIGLNGEYVYDKIEIIPVATPEAEYDLERAQAV 652  
Db 599 SFRAGFTPTNPLNAQSTFTLGAQSPS-NOEYIDRVEFPAEYDLERAQAV 657  
QY 653 NALFTNTNRLKTDVTDYHIDQVSNLVACLSDEFCLDEKRELLKVKYAKRLSDERNLL 712  
Db 658 NALFTNTNRLKTDVTDYHIDQVSNLVACLSDEFCLDEKRELLKVKYAKRLSDERNLL 717  
QY 713 QDPNFTSINKQPDFSTNQSNTSHEQSEHGWSNITIOEGNDVFKENYVTLPTGF 772  
Db 718 QDPNFTSINKQPDFSTNQSNTSHEQSEHGWSNITIOEGNDVFKENYVTLPTGF 777  
QY 773 NECYPTLYIKIGSELKAYTRYQURGYEIDSQDLIEYLIRYNAGHETLDVPGTESLWPL 832  
Db 778 NECYPTLYIKIGSELKAYTRYQURGYEIDSQDLIEYLIRYNAGHETLDVPGTESLWPL 837  
QY 833 SVESPIGRGPNRCAPHFENWPDLDSCRDGKCAHSHHFTLIDVGCCTDLHENLGVW 892  
Db 838 SVESPIGRGPNRCAPHFENWPDLDSCRDGKCAHSHHFTLIDVGCCTDLHENLGVW 897  
QY 893 VVFKIKTOEGHARLGNLFIEKPLGALSRVKAERKWRDKREKLOLETKRYVTEAKE 952  
Db 898 VVFKIKTOEGHARLGNLFIEKPLGALSRVKAERKWRDKREKLOLETKRYVTEAKE 957  
QY 953 AVDALFVDSQYDRLOQADNIGMIHAADKLVHRIEAYLSLVPVPGVNAEIFEELGHII 1012  
Db 958 AVDALFVDSQYDRLOQADNIGMIHAADKLVHRIEAYLSLVPVPGVNAEIFEELGHII 1017  
QY 1013 TALSIDARNVVKNGDFNGLTCMNKGVHVDVQSHHRSDLVPEWEAEVSOAVRVCPC 1072  
Db 1018 TALSIDARNVVKNGDFNGLTCMNKGVHVDVQSHHRSDLVPEWEAEVSOAVRVCPC 1077  
QY 1073 GYLIRVATYKGYGEGCVTHIENNTDELKFKNREBEVPTDTGTCDNYTAHQGTAGC 1132  
Db 1078 GYLIRVATYKGYGEGCVTHIENNTDELKFKNREBEVPTDTGTCDNYTAHQGTAGC 1135  
QY 1133 ADACNSRNAGYEDAEVDTTASVNYKPYEBETVTDVDRDNHCEYDRGVYVNPVPVAGYV 1192  
Db 1136 --ACNSRNAGYEDAEVDTTASVNYKPYEBETVTDVDRDNHCEYDRGVYVNPVPVAGYV 1193  
QY 1193 TKELEYFPFTDTWIEIGETGKFTVDSVELLME 1228  
Db 1194 TKELEYFPFTDTWIEIGETGKFTVDSVELLME 1229

RESULT 11  
US-08-474-038-4  
; Sequence 4, Application US/08474038  
; Patent No. 5679343  
; GENERAL INFORMATION:  
; APPLICANT: Donovan, William P.  
; APPLICANT: Tan, Yiping  
; APPLICANT: Jan, Christine S.  
; APPLICANT: Gonzalez Jr., Jose M.  
; TITLE OF INVENTION: BACILLUS THURINGIENSIS clyt4 AND clyt5  
; TITLE OF INVENTION: TOXIN GENES AND PROTEINS TOXIC TO LEPIDOPTERAN INSECTS  
; NUMBER OF SEQUENCES: 5  
; CORRESPONDENCE ADDRESS:  
; ADDRESSEE: Panitch Schwarze Jacobs & Nadel c/o A.S.  
; ADDRESSEE: Nadel  
; STREET: 1601 Market Street, 36th Floor  
; CITY: Philadelphia  
; STATE: Pennsylvania  
; COUNTRY: U.S.A.  
; ZIP: 19103  
; COMPUTER READABLE FORM:  
; MEDIUM TYPE: Floppy disk  
; COMPUTER: IBM PC compatible

OPERATING SYSTEM: PC-DOS/MS-DOS  
SOFTWARE: Patentin Release #1.0, Version #1.25  
CURRENT APPLICATION DATA:  
APPLICATION NUMBER: US/08/474,038  
FILING DATE: 07-JUN-1995  
CLASSIFICATION: 514  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: US 08/176,865  
FILING DATE: 30-DEC-1993  
APPLICATION NUMBER: US 08/100,709  
FILING DATE: 29-JUL-1993  
ATTORNEY/AGENT INFORMATION:  
NAME: Egolf, Christopher  
REGISTRATION NUMBER: 27633  
REFERENCE/DOCKET NUMBER: 7205-49  
TELEPHONE: 215-757-1590  
INFORMATION FOR SEQ ID NO: 4:  
SEQUENCE CHARACTERISTICS:  
LENGTH: 1229 amino acids  
TYPE: amino acid  
TOPOLOGY: linear  
MOLECULE TYPE: protein  
US-08-474-038-4

Query Match 83.1%; Score 5413.5; DB 1; Length 1229;  
Best Local Similarity 82.6%; Pred. No. 0;  
Matches 1021; Conservative 74; Mismatches 126; Indels 15; Gaps 6;

QY 1 LTSNRKNEETINA-----VSNHSAQMDLLDPARIEDSLCIAEGNNIDPPVSASTVQGI 55  
Db 1 LTSNRKNEETINALSTPTVSNPSTQMNLSDPARIEDSLCIAEGNNIDPPVSASTVQGI 60  
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Db 61 NIAGRIILGVLPAGQALASFSYLVGELMPGRDOMEIFLEHVEQLINQOITENARNTA 120  
QY 116 LARIQGLGDSFRAYQQSLEDWLENRRDARTSVLHTQYIALELFLNAMPLEFARNQVVP 175  
Db 121 IARLEGLGRGYSYQQALETWLDNRNDARSIIILERYVALELDTITTAIPLRIERNEVP 180  
QY 176 LLVYQAANLHLLLDASLFGSEFGLTSOEIOYRYVERQVETRDYSDYCVENWNTGLN 235  
Db 181 LLVYQAANLHLLLDASLFGSEWGSDDVQYQOEIRYTEYSNHCQVWNTGLN 240  
QY 236 SLRGTNAASVRYNQFRDLTLGLVLDLVALPSPYDTRTYPINTSAQLTREYVTDAGATG 295  
Db 241 NLRTNAESWLRVYNQFRDLTLGLVLDLVALPSPYDTRTYPINTSAQLTREYVTDAGATG 300  
QY 296 V--NMAASNNVNNAPSAIEAAAIIRSPHLLDPLEQITFSASSRSNTHMTYWRGHT 353  
Db 301 APSGFATNPNFNNAPSAIEAAAIIRSPHLLDPLEQITFSASSRSNTHMTYWRGHT 360  
QY 354 IQSRPIGGTNTSHGAT-NTSINPVTLRPASRDVYTESVAGVLLWGIYLEPIHGVPTV 412  
Db 361 LNFRPIGGTNTSHGAT-NTSINPVTLRPASRDVYTESVAGVLLWGIYLEPIHGVPTV 418  
QY 413 RFNFTNPQNTSDRGTANVSQYSPGLQKDSLTPPETTERPNYESSYSHRLSHIGIIL 472  
Db 419 RFNFTNPQNTSDRGTANVSQYSPGLQKDSLTPPETTERPNYESSYSHRLSHIGIIL 478  
QY 473 QSRVNVVYVSWTHRSADRTWTIGPNRITQIPMWKASELPQGTTVVVRGPGFTGGDILRRTN 532  
Db 479 GNTURAPVYVSWTHRSADRTWTIGPNRITQIPMWKASELPQGTTVVVRGPGFTGGDILRRTN 538  
QY 533 TGGCPPIRVNGLPQYRIGFRYASTVDFDFVSRGTTNNFRFRTWNSGDELKYG 592  
Db 539 TGTGDIIRLNVPLSQRYRIRYASTVDFDFVSRGTTNNFRFRTWNSGDELKYG 598  
QY 593 NFVRAFTPTFTQIIRTSIGLNGEYVYDKIEIIPVATPEAEYDLERAQAV 652  
Db 599 SFRAGFTPTNPLNAQSTFTLGAQSPS-NOEYIDRVEFPAEYDLERAQAV 657

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658 NALFTSTNPRRLKTDVTDYHIDQVSNLVACLSDEFCLEKRELEKVKYAKRLSDERNLL 717
713 QDPNFTSINKQPDFSTNEQSNFTSIHQSEHGWSNITIQEGNDVFKENYVTLPGTF 772
718 QDPNFTFISGQLSFASIDQSNFPISELSEHGWSANVTIQEGNDVFKENYVTLPGTF 777
773 NECYPTLYQKIGESLKAITYRQQLRGVIEDSQDLLEIYLIYRNKAKHETLDPVGTESLWPL 832
778 NECYNYLYQKIGESLKAITYRQQLRGVIEDSQDLLEIYLIYRNKAKHETLDPVGTESLWPL 837
833 SVESPIGRGCEPNRCAPHEWNPDLDCSCRDGERCAHSHHFTLIDVGCITDLHENLGVW 892
838 SVESPIGRGCEPNRCAPHEWNPDLDCSCRDGERCAHSHHFTLIDVGCITDLHENLGVW 897
893 VVFKIKTQEGHARLGNLFIEBKPLLGALSRVKAERKWRDKREKLOLETKRVVTEAKE 952
898 VVFKIKTQEGVARLGNLFIEBKPLIGALSRVKAERKWRDKREKLOLETKRVVTEAKE 957
953 AVDALFVDSQYDRLOADTNIGMIHAADKLVHRIEAYLSELVPIPGVNAEIPFEELEHII 1012
958 AVDALFVDSQYDRLOADTNIGMIHAADKLVHRIEAYLSELVPIPGVNAEIPFEELEHII 1017
1013 TAILSIDARNVVKNGDFNGLTCMNKGVHDVQQSHHRSDLVPEWEAEVQAVRVCPCG 1072
1018 TAMSIDARNVVKNGDFNGLTCMNKGVHDVQQSHHRSDLVPEWEAEVQAVRVCPCG 1077
1073 GYLIRVATYKEGYGCGCVTHIENNTDELKPKNREBEVPTDTGTCNDYTAHQGTAGC 1132
1078 GYLIRVATYKEGYGCGCVTHIENNTDELKPKNREBEVPTDTGTCNDYTAHQGTAGC 1135
1133 ADACNSRNAGYEDAEVDVDTASVNYKPYEBETVTDVRRDNHCEYDRGVNVPVPGYV 1192
1136 --ACNSRNAGYEDAEVDVDTASVNYKPYEBETVTDVRRDNHCEYDRGVNVPVPGYV 1193
1193 TXLEYFFPETDVIWIEIGETEGKFIVDSVELLLMEE 1228
1194 TXLEYFFPETDVIWIEIGETEGKFIVDSVELLLMEE 1229

RESULT 12
US-08-779-046-4
; Sequence 4, Application US/08779046
; Patent No. 5854053
; GENERAL INFORMATION:
; APPLICANT: Donovan, William P.
; APPLICANT: Tan, Yiping
; APPLICANT: Jany, Christine S.
; APPLICANT: Gonzalez Jr., Jose M.
; TITLE OF INVENTION: BACILLUS THURINGIENSIS cryET4 AND cryET5
; TITLE OF INVENTION: TOXIN GENES AND PROTEINS TOXIC TO LEPIDOPTERAN INSECTS
; NUMBER OF SEQUENCES: 5
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Panitch Schwarze Jacobs & Nadel c/o A.S.
; ADDRESSEE: Nadel
; STREET: 1601 Market Street, 36th Floor
; CITY: Philadelphia
; STATE: Pennsylvania
; COUNTRY: U.S.A.
; ZIP: 19103
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patent In Release #1.0, Version #1.25
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/779,046
; FILING DATE: 06-JAN-1997
; CLASSIFICATION: 435
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 08/100,709
; FILING DATE: 29-JUL-1993
```

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; ATTORNEY/AGENT INFORMATION:
; NAME: Egolf, Christopher
; REGISTRATION NUMBER: 27633
; REFERENCE/DOCKET NUMBER: 7205-49
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 215-757-1590
; INFORMATION FOR SEQ ID NO: 4:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 1229 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: protein
; US-08-779-046-4

Query Match 83.1%; Score 5413.5; DB 2; Length 1229;
Best Local Similarity 82.6%; Pred. No. 0;
Matches 1021; Conservative 74; Mismatches 126; Indels 15; Gaps 6;

Qy 1 LTSNRKNEIINA-----VSNHSAQMDLLPDARIEDSLCIAEGNNIDPFVSASTVQTGI 55
Db 1 LTSNRKNEIINALSIPTVSNPSTQNLSPDARIEDSLCVAEVNNDIPFVSASTVQTGI 60
56 NIAGRIILGVLPAGQALASFYSLVCELWPRGDQWEIFLEHVEQLINQOITENARNTA 115
61 NIAGRIILGVLPAGQALASFYSLVCELWPRGDQWEIFLEHVEQLIROQVTEENTRTA 120
116 LARLOGLGDSFRAVQOQSLDWLENRRDARTSRVLHTOYIALELDFLAMPFLAIRNOEVP 175
121 IARLEGLRGVRSYQQALETWLNRRNDARSILERYVALELDITTAIPLFRIRNEVP 180
176 LLMYAQAANLHLLLRDASLFGSEFGLTSOEIQRYYERQVETRDYSDYCVIEWNTGLN 235
181 LLMYAQAANLHLLLRDASLFGSEWMASSDVNQYQEQIRYTEEYSNHCVQWYNTGLN 240
236 SLRGTNAASVRVYQPRRDITGLVDLVALPPSDTDTYPTINTSAQLTREYVTAIGATG 295
241 NLRGTNAESMLRYNQFRDRLTGLVDLVALPPSDTDTYPTINTSAQLTREYVTDPIGRN 300
296 V--NMASNMVNNAPSFSAIEAAIRSPHLLDLEQLTIFSSASSRWSNTRHMYWRGHT 353
301 APSGFATNPNFNNAPSFSAIEAAIRSPHLLDLEQLTIFSSASSRWSNTRHMYWRGHR 360
354 IQSRPIGGGLNTSTHGAT--NTSINPVLRFASRDVRYTESYAGVLLMGVILEPHVPTV 412
361 LNFRPIGGTLNTSTQGLTNNISINPVLQFTSRDVRYESNAGTNI--LFTTPVNGVPA 418
413 RFNFTNPQNTSDRGTANYSPQYSPGLQKDSSETLPPETTERPNYESYSHRLSHIGILL 472
419 RFNFINPQNIYERGATTSQPYQGVIGQLFDSSETLPPETTERPNYESYSHRLSHIGILL 478
473 QSRVNVVYVSWTHRSADRTNIGPNRITQIPMVKASELPQGTTVVRGPGFTGGDLRRTN 532
479 GNTLRAPVYVSWTHRSADRTNIGPNRITQIPLVKALNLHSGVTVVGGPGFTGGDLRRTN 538
533 TGGFGPIRVTVNGPLTQYRIGFYASTVDPDFVSVRGGTTVNNFRFLRTWNSGDELKYG 592
539 TGTGDIRLNLNVLPSQRYVRIRYASTDQLQFFTRINGTIVNIGNFSRTWNRGDNLEVR 598
593 NFVRRATFTPTFTQIQDIRTSIQGLSGNGEVVIDKIEIIPVTATPAEVDLERAQAV 652
599 SFRTAGFSTPFNFLNAQSTFTLGAQSFS--NOEVVIDRVEFVPAEVTPEAEVDLERAQAV 657
653 NALFTNTNPRRLKTDVTDYHIDQVSNLVACLSDEFCLEKRELEKVKYAKRLSDERNLL 712
658 NALFTSTNPRRLKTDVTDYHIDQVSNLVACLSDEFCLEKRELEKVKYAKRLSDERNLL 717
713 QDPNFTSINKQPDFSTNEQSNFTSIHQSEHGWSNITIQEGNDVFKENYVTLPGTF 772
718 QDPNFTFISGQLSFASIDQSNFPISELSEHGWSANVTIQEGNDVFKENYVTLPGTF 777
773 NECYPTLYQKIGESLKAITYRQQLRGVIEDSQDLLEIYLIYRNKAKHETLDPVGTESLWPL 832
778 NECYNYLYQKIGESLKAITYRQQLRGVIEDSQDLLEIYLIYRNKAKHETLDPVGTESLWPL 837
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QY 833 SVESPIGRGCEPNRCAPHEWNPDLDCSCRDGCEKCAHSHHSHFSLDIDVCGTDLHENLGVW 892  
Db 838 SVESPIGRGCEPNRCAPHEWNPDLDCSCRDGCEKCAHSHHSHFSLDIDVCGTDLHENLGVW 897  
QY 893 VVFKIKTOEGHARLGNLFIEBKPLLGALSRVKAERKWRDKRKLQLETKRVVTEAKE 952  
Db 898 VVFKIKTOEGHARLGNLFIEBKPLLGALSRVKAERKWRDKRKLQLETKRVVTEAKE 957  
QY 953 AVDALFVDSQYDRLQADTNIGMHAADKLVRHREAYISELPVPGVNAEIEELEGHI 1012  
Db 958 AVDALFVDSQYDRLQADTNIGMHAADKLVRHREAYISELPVPGVNAEIEELEGHI 1017  
QY 1013 TAILSADARNVVKGFNGLTCNVKGVHDVQOSSHRSDDLVIPEWEAEVSOAVRVCPC 1072  
Db 1018 TAILSADARNVVKGFNGLTCNVKGVHDVQOSSHRSDDLVIPEWEAEVSOAVRVCPC 1077  
QY 1073 GYLIVATYKEGYGCGCVTHIENNTDELKFKNEEBEVEVPTDGTGNDYTAHOGTAGC 1132  
Db 1078 GYLIVATYKEGYGCGCVTHIENNTDELKFKNEEBEVEVPTDGTGNDYTAHOGTAGC 1135  
QY 1133 ADACNSRAGYEDAYEVDTTASVNYKPTYBEETVTDVRRDNHCEYDRGVVNYPPVAGYV 1192  
Db 1136 --ACNSRAGYEDAYEVDTTASVNYKPTYBEETVTDVRRDNHCEYDRGVVNYPPVAGYV 1193  
QY 1193 TKELEYFPETDVTWIEIGETEGKFIVDSVELLMEE 1228  
Db 1194 TKELEYFPETDVTWIEIGETEGKFIVDSVELLMEE 1229

## RESULT 13

US-08-881-340-4  
; Sequence 4, Application US/08881340  
; Patent No. 5942658  
; GENERAL INFORMATION:  
; APPLICANT: Donovan, William P.  
; APPLICANT: Tan, Yaping  
; APPLICANT: Jany, Christine S.  
; APPLICANT: Gonzalez Jr., Jose M.  
; TITLE OF INVENTION: BACILLUS THURINGIENSIS cryET4 AND cryET5  
; TITLE OF INVENTION: TOXIN GENES AND PROTEINS TOXIC TO LEPIDOPTERAN INSECTS  
; NUMBER OF SEQUENCES: 5  
; CORRESPONDENCE ADDRESS:  
; ADDRESSEE: Panitch Schwarze Jacobs & Nadel c/o A.S.  
; ADDRESSEE: Nadel  
; STREET: 1601 Market Street, 36th Floor  
; CITY: Philadelphia  
; STATE: Pennsylvania  
; COUNTRY: U.S.A.  
; ZIP: 19103  
; COMPUTER READABLE FORM:  
; MEDIUM TYPE: Floppy disk  
; COMPUTER: IBM PC compatible  
; OPERATING SYSTEM: PC-DOS/MS-DOS  
; SOFTWARE: Patentin Release #1.0, Version #1.25  
; CURRENT APPLICATION DATA:  
; APPLICATION NUMBER: US/08/881.340  
; FILING DATE: 24-JUN-1997  
; CLASSIFICATION: 424  
; PRIOR APPLICATION DATA:  
; APPLICATION NUMBER: 08/100,709  
; FILING DATE: 29-JUL-1993  
; ATTORNEY/AGENT INFORMATION:  
; NAME: Egolf, Christopher  
; REGISTRATION NUMBER: 27633  
; REFERENCE/DOCKET NUMBER: 7205-49  
; TELECOMMUNICATION INFORMATION:  
; TELEPHONE: 215-757-1590  
; INFORMATION FOR SEQ ID NO: 4:  
; SEQUENCE CHARACTERISTICS:  
; LENGTH: 1229 amino acids  
; TYPE: amino acid  
; TOPOLOGY: linear

## ; MOLECULE TYPE: protein

US-08-881-340-4

Query Match 83.1%; Score 5413.5; DB 2; Length 1229;  
Best Local Similarity 82.6%; Pred. No. 0;  
Matches 1021; Conservative 74; Mismatches 126; Indels 15; Gaps 6;  
QY 1 LTSRKNEINEIINA-----VSNHSAQMDLLDPARIEDSLCIAEGNIDPFVFSASTVQTGI 55  
Db 1 LTSRKNEINEIINALSIPTVSNPSTQMNLSDPARIEDSLCVAEANNIDPFVFSASTVQTGI 60  
QY 56 NIAGRIILGVLPAGOLASFYSLVGLFELPRGDOWEIFLEHVEQLINQOITENARNTA 115  
Db 61 NIAGRIILGVLPAGOLASFYSLVGLFELPRGDOWEIFLEHVEQLIRQOYTENRNTA 120  
QY 116 LARLQGLGDSFRAYQQSLEDWLENRRDARTSRVLHTQYIALELDPLNAMPFAIRNQEV 175  
Db 121 IARLEGLGRGYSQQALETWLDNRNDARSIIILERVVALELDITTAIPFIRINEVP 180  
QY 176 LLMYAQAANLHLLLRDASLFGSEFGLTQSEIQRYYERQVTRDRYSDYCVWYNTGLN 235  
Db 181 LLMYAQAANLHLLLRDASLFGSEWGMASDVNQYQEQIRYTEEYSNHCQWYNTGLN 240  
QY 236 SLRGTNAASVRYNQFPRDLTLGVLDLVALPSPVDTRTYPINTSAQLTREIYTDPIGR 295  
Db 241 NLRGTNAESWLRYNQFRRDLTLGVLDLVALPSPVDTRTYPINTSAQLTREIYTDPIGR 300  
QY 296 V--NNASMYNNNAPSFSAIEAAAIIRSPHLLDLEQLTIFSSASRWNTSRHMTYWRGHT 353  
Db 301 APSGFATNFWNNAPSFSAIEAAIIRSPHLLDLEQLTIFSSASRWNTSRHMTYWRGHT 360  
QY 354 IQSRPIGGLNTSTHGAT--NTSINPVTLRFSRDRVYRTESYAGVLLMGVILEPIHGVPTV 412  
Db 361 LNFRPIGGLNTSTQGLTNTSINPVTLRFSRDRVYRTESYAGVLLMGVILEPIHGVPTV 418  
QY 413 RFNFTNPQISDRGTANYSQBESPGQLQKDSSETLPELPTTERNYEYSYHRLSHIGIL 472  
Db 419 RFNFTNPQISDRGTANYSQBESPGQLQKDSSETLPELPTTERNYEYSYHRLSHIGIL 478  
QY 473 QSRVNPVYSWTHRSADRTNIGPNRITQIPMWKASELPQGTVVVRGPGFTGGDILRRTN 532  
Db 479 GNTLRAPVYSWTHRSADRTNIGPNRITQIPMWKASELPQGTVVVRGPGFTGGDILRRTN 538  
QY 533 TGGFGPIRVTVNGPLTQRYRIGFRYASTVDPDFVFSRGGTTVNNFRFLRTVNSGDELKYG 592  
Db 539 TGTGDIIRLNLNVPISQRYRIRYASTVDPDFVFSRGGTTVNNFRFLRTVNSGDELKYG 598  
QY 593 NFVRRAFTTPTFTQIQDIIRTSIQGLSGNGEVVIDKIEIIPVTATPFAASYDLERAQAV 652  
Db 599 SFRTAGFSTPFPNLAQSTFTLGAQSFS--NOEVVIDRVEFVPAEVTFAEYDLERAQAV 657  
QY 653 NALFTNTNPRRLKTDVTDYHIDQVSNLVACLSDFCLDEKRELEKVKYAKRLSDERNLL 712  
Db 658 NALFTNTNPRRLKTDVTDYHIDQVSNLVACLSDFCLDEKRELEKVKYAKRLSDERNLL 717  
QY 713 QDPNFTSINKQDPFISTNEQSNFTSIHQSHGWMGSENITIQEGNDVFKENYVTLPGTF 772  
Db 718 QDPNFTSINKQDPFISTNEQSNFTSIHQSHGWMGSENITIQEGNDVFKENYVTLPGTF 777  
QY 773 NECYPTLYQKIGESSELKATRYQYRGYIEDSQLEIYLIRYNAKHETLDVPGTESLWPL 832  
Db 778 NECYPTLYQKIGESSELKATRYQYRGYIEDSQLEIYLIRYNAKHETLDVPGTESLWPL 837  
QY 833 SVESPIGRGCEPNRCAPHEWNPDLDCSCRDGCEKCAHSHHSHFSLDIDVCGTDLHENLGVW 892  
Db 838 SVESPIGRGCEPNRCAPHEWNPDLDCSCRDGCEKCAHSHHSHFSLDIDVCGTDLHENLGVW 897  
QY 893 VVFKIKTOEGHARLGNLFIEBKPLLGALSRVKAERKWRDKRKLQLETKRVVTEAKE 952  
Db 898 VVFKIKTOEGHARLGNLFIEBKPLLGALSRVKAERKWRDKRKLQLETKRVVTEAKE 957  
QY 953 AVDALFVDSQYDRLQADTNIGMHAADKLVRHREAYISELPVPGVNAEIEELEGHI 1012

Db 958 AVDALFVDSQYDQLQADTNIGMIHAADKLVRHIREAYLSELFPVPGVNAEIEFELEGHII 1017  
Qy 1013 TALSIDYDARNVVKNGDFNGLTCMNKGVHDVQOSHHSDLVPEWEAEVQAQVPCPG 1072  
Db 1018 TAMSIDYDARNVVKNGDFNGLTCMNKGVHDVQOSHHSDLVPEWEAEVQAQVPCPG 1077  
Qy 1073 GYLIVTAYKEGYGSGCVTHIEIENNTDELKFKNREBEVPTDTGTCDNYTAHQGTAGC 1132  
Db 1078 GYLIVTAYKEGYGSGCVTHIEIENNTDELKFKNREBEVPTDTGTCDNYTAHQGTAGC 1135  
Qy 1133 ADACNSRNAGVEDAYEVDVTTASVNVKPYBEETVTVDRRDHCEYDRGVNYPVPAGYV 1192  
Db 1136 --ACNSRNAGVEDAYEVDVTTASVNVKPYBEETVTVDRRDHCEYDRGVNYPVPAGYV 1193  
Qy 1193 TKELEYFPETDTVWIEIGETGKFI VDSVLELLMEE 1228  
Db 1194 TKELEYFPETDTVWIEIGETGKFI VDSVLELLMEE 1229

## RESULT 14

US-08-448-170-8  
; Sequence 8, Application US/08448170  
; Patent No. 5723758  
; GENERAL INFORMATION:  
; APPLICANT: Payne, Jewel  
; APPLICANT: Cummings, David A.  
; APPLICANT: Cannon, Raymond J.C.  
; APPLICANT: Narva, Kenneth E.  
; APPLICANT: Stelman, Steve  
; TITLE OF INVENTION: No. 5723758el Bacillus thuringiensis Isolate Denoted  
; TITLE OF INVENTION: B.t. PS158C2, Active Against Lepidopteran Pests, and Genes  
; TITLE OF INVENTION: Encoding Lepidopteran-Active Toxins  
; NUMBER OF SEQUENCES: 10  
; CORRESPONDENCE ADDRESS:  
; ADDRESSEE: David R. Saliwanchik  
; STREET: 2421 N.W. 41st Street, Suite A-1  
; CITY: Gainesville  
; STATE: Florida  
; COUNTRY: USA  
; ZIP: 32606  
; COMPUTER READABLE FORM:  
; MEDIUM TYPE: Floppy disk  
; COMPUTER: IBM PC compatible  
; OPERATING SYSTEM: PC-DOS/MS-DOS  
; SOFTWARE: Patent In Release #1.0, Version #1.25  
; CURRENT APPLICATION DATA:  
; APPLICATION NUMBER: US/08/448,170  
; FILING DATE:  
; CLASSIFICATION: 424  
; PRIOR APPLICATION DATA:  
; APPLICATION NUMBER: US 08/069,902  
; FILING DATE: 01-JUNE-1993  
; CLASSIFICATION: 424  
; PRIOR APPLICATION DATA:  
; APPLICATION NUMBER: US 07/759,247  
; FILING DATE: 13-SEPT-1991  
; CLASSIFICATION: 424  
; ATTORNEY/AGENT INFORMATION:  
; NAME: Saliwanchik, David R.  
; REGISTRATION NUMBER: 31,794  
; REFERENCE/DOCKET NUMBER: M/S 102D.C1  
; TELECOMMUNICATION INFORMATION:  
; TELEPHONE: (904) 375-8100  
; TELEFAX: (904) 372-5800  
; INFORMATION FOR SEQ ID NO: 8:  
; SEQUENCE CHARACTERISTICS:  
; LENGTH: 1227 amino acids  
; TYPE: amino acid  
; STRANDEDNESS: single  
; TOPOLOGY: linear  
; MOLECULE TYPE: peptide  
US-08-448-170-8

Query Match 82.1%; Score 5350.5; DB 1; Length 1227;  
Best Local Similarity 83.5%; Pred. No. 0;  
Matches 1031; Conservative 58; Mismatches 131; Indels 15; Gaps 6;  
Qy 1 LTSNRKNEIIN-----AVSNHSAQMDLLDPDARIEDSLCIAEGNNIDPFVSASTVGTGI 55  
Db 1 LTSNRKNEIINALSIPAVSNHSAQMNJSTDARIEDSLCIAEGNNIDPFVSASTVGTGI 60  
Qy 56 NIAGRILGVLPFPAGQLASFYSLVGLMPPRGDOWEIEFLEHVEQLINQIITENARNTA 115  
Db 61 NIAGRILGVLPFPAGQLASFYSLVGLMPPRGDOWEIEFLEHVEQLIRQVIENTRDTA 120  
Qy 116 LARLQGLGDSFRAYQOQSLDMLNRRDARTSRVLHTQYIALELDFLNMPLFAIRNOEVP 175  
Db 121 LARLQGLGNSFRAYQOQSLDMLNRRDARTSRVLHTQYIALELDFLNMPLFAIRNOEVP 180  
Qy 176 LLMYAQAANLHLLLDASLFGSEFGLTSQETQRYRQYERQVTRDRDSDYCVENYNTGLN 235  
Db 181 LLMYAQAANLHLLLDASLFGSEFGLTSQETQRYRQYERQVTRDRDSDYCVENYNTGLN 240  
Qy 236 SLRGTNAASWVRVYVQPRRDLTLGVLDLVALFPPSYDTRTYPINTSAQLTREYVYTDAGTG 295  
Db 241 NLRGTAESWLRVYVQPRRDLTLGVLDLVALFPPSYDTRTYPINTSAQLTREYVYTDAGTG 300  
Qy 296 V--NMASMNWYNNAPSAIEAAIRSPHLLDLEQLTIFPSASSRVSNTSRHMTYWRGHT 353  
Db 301 APSGFASTNWFNNAPSAIEAAIRSPHLLDLEQLTIFPSASSRVSNTSRHMTYWRGHT 360  
Qy 354 IQSRPIGGLNTSTHGATNTSINPVTILRFASROVYRTESVAGVLLWGLYLEPIHGVPTVR 413  
Db 361 LESRTIRGSLSTSHGNTNTSINPVTLOFTSRDYRTESFAGINI--LLTTPVNGVPMWAR 418  
Qy 414 FNFTNPNISDRGTANYSPQVSPCLQDKDSELPETTERPNYESYSHRLSHIGIILQ 473  
Db 419 FNWRNPLN--SLRGSLLTYGTGVTQTFDSELTETTERPNYESYSHRLSNIRLISG 477  
Qy 474 SRVNVVYVSWTHRSADRTNTIGPNRITQIPMVKASELPQGTVVVVGPGFTGDIILRTNT 533  
Db 478 NTLRAPVYVSWTHRSADRTNTISSDSITQIPLVKSNLNSGTSVVSFGPGFTGDIIRTNVN 537  
Qy 534 GGFPIRVTVNGPLTQRYRIGFRYASIVDPDFVYSRGTTVNNFRFLRTWNSGDELKYN 593  
Db 538 GSVLSMGLNFNTSLQRYRVRVYAAQVTVLVRVTVGGSTTFDQGFSTMSANESLTSQS 597  
Qy 594 FVRRAPFTPTFTQIDIRTSIQGLSGNGEVYIDKIEIIPVTATFAEYDLERAQEAVN 653  
Db 598 FRPAEFVPGISASGSQ--TAGISISNAGRQTFHDKIEFIPITATFAEYDLERAQEAVN 656  
Qy 654 ALFTNTNPRRLKTDVTDYHIDQVSNLVACLSDEFCLDEKRELLKVKYAKLSDBERNLLQ 713  
Db 657 ALFTNTNPRRLKTDVTDYHIDVSNLVACLSDEFCLDEKRELLKVKYAKLSDBERNLLQ 716  
Qy 714 DPNETSINKQPDFISTNEQSNFTSIHQSEHGWSGNSNITIOEGNDVFKENVVTLPGTFN 773  
Db 717 DPNETSINKQPDFISTNEQSNFTSIHQSEHGWSGNSNITIOEGNDVFKENVVTLPGTFN 776  
Qy 774 ECPYTYLYQKIGESSELKAYTRYQLRGYIEDSQDLEIYLIRYNAXHETLDPVGTESLWPLS 833  
Db 777 ECPYTYLYQKIGEAELKAYTRYQLSGYIEDSQDLEIYLIRYNAXHETLDPVGTESVWPLS 836  
Qy 834 VESPIGRGCEPNRCAPHFENWPDLDCCSRDGEKCAHSHHPSLDIDVCGCTDLHENLGVWV 893  
Db 837 VESPIGRGCEPNRCAPHFENWPDLDCCSRDGEKCAHSHHPSLDIDVCGICDLHENLGVWV 896  
Qy 894 VPKITQEGHARLGNLEFIEBKPLLGEALSRVKAEEKWRDKREKLOLETKRVTYTEAKEA 953  
Db 897 VPKITQEGHARLGNLEFIEBKPLLGEALSRVKAEEKWRDKREKLOLETKRVTYTEAKEA 956  
Qy 954 VDALFVDSQYDRLQADTNIGMIHAADKLVRHIREAYLSELFPVPGVNAEIEFELEGHII 1013  
Db 957 VDALFVDSQYDRLQADTNIGMIHAADKLVRHIREAYLSELFPVPGVNAEIEFELEGHII 1016  
Qy 1014 AISLYDARNVVKNGDFNGLTCMNKGVHDVQOSHHSDLVPEWEAEVQAQVPCPG 1073

Db 1017 AILSLDARNVKNNGDENGLACWVKGHVQSHRSVILVPEWEAEVQAVRVCPRG 1076  
Qy 1074 YILRVAYKEGEGCVTHIENNTDELKFKNREEEVYPTDTCNDYTAHQGTAGCA 1133  
Db 1077 YILRVAYKEGEGCVTHIENNTDELKFKNCEEEVYPTDTCNDYTAHQGTA-- 1133  
Qy 1134 DACNSNAGYDAYEVDTTASVNYKPTVEEYTTDVRDNHCEYDRGVNYPVPAGYVT 1193  
Db 1134 -ACNSNAGYDAYEVDTTASVNYKPTVEEYTTDVRDNHCEYDRGVNYPVPAGYMT 1192  
Qy 1194 KELEYFPETDVTWIEBIGETEGKFIVDSVELLIMEE 1228  
Db 1193 KELEYFPETDKWIEBIGETEGKFIVDSVELLIMEE 1227

RESULT 15  
US-08-961-803-9  
; Sequence 9, Application US/08961803  
; Patent No. 6150589  
; GENERAL INFORMATION:  
; APPLICANT: Payne, Jewel  
; APPLICANT: Cummings, David A.  
; APPLICANT: Cannon, Raymond J.C.  
; APPLICANT: Narva, Kenneth E.  
; APPLICANT: Stelman, Steve  
; TITLE OF INVENTION: No. 6150589el Bacillus thuringiensis Isolate Denoted  
; TITLE OF INVENTION: B.t. PSI58C2, Active Against Lepidopteran Pests, and Genes  
; TITLE OF INVENTION: Encoding Lepidopteran-Active Toxins  
; NUMBER OF SEQUENCES: 10  
; CORRESPONDENCE ADDRESS:  
; ADDRESS: Jay M. Sanders  
; STREET: 2421 N.W. 41st Street, Suite A-1  
; CITY: Gainesville  
; STATE: Florida  
; COUNTRY: USA  
; ZIP: 32606  
; COMPUTER READABLE FORM:  
; MEDIUM TYPE: Floppy disk  
; COMPUTER: IBM PC compatible  
; OPERATING SYSTEM: PC-DOS/MS-DOS  
; SOFTWARE: Patent In Release #1.0, Version #1.25  
; CURRENT APPLICATION DATA:  
; APPLICATION NUMBER: US/08/961,803  
; FILING DATE: 31-OCT-1997  
; CLASSIFICATION: 800  
; PRIOR APPLICATION DATA:  
; APPLICATION NUMBER: US 08/069,902  
; FILING DATE: 01-JUNE-1993  
; CLASSIFICATION: 800  
; PRIOR APPLICATION DATA:  
; APPLICATION NUMBER: US 07/759,247  
; FILING DATE: 13-SEPT-1991  
; CLASSIFICATION: 800  
; PRIOR APPLICATION DATA:  
; APPLICATION NUMBER: US 08/448,170  
; FILING DATE: 23-MAY-1995  
; CLASSIFICATION: 800  
; ATTORNEY/AGENT INFORMATION:  
; NAME: Sanders, Jay M.  
; REGISTRATION NUMBER: 39,355  
; REFERENCE/DOCKET NUMBER: M/S 102DCD1  
; TELECOMMUNICATION INFORMATION:  
; TELEPHONE: (352) 375-8100  
; TELEFAX: (352) 372-5800  
; INFORMATION FOR SEQ ID NO: 9:  
; SEQUENCE CHARACTERISTICS:  
; LENGTH: 1227 amino acids  
; TYPE: amino acid  
; STRANDEDNESS: single  
; TOPOLOGY: linear  
; MOLECULE TYPE: peptide  
US-08-961-803-9

Query Match 82.1%; Score 5350.5; DB 3; Length 1227;  
Best Local Similarity 83.5%; Pred. No. 0;  
Matches 1031; Conservative 58; Mismatches 131; Indels 15; Gaps 6;  
Qy 1 LTSNRKNEIIN-----AVSNHSAQMDLLDPARIEDSLCIAEGNNIDPPFVSASTVQTGI 55  
Db 1 LTSNRKNEIINALSIPAVNSHSAQMDLLDPARIEDSLCIAEGNNIDPPFVSASTVQTGI 60  
Qy 56 NIAGRIILGVLGVPFAGQLASFYSELVGLWPRGRDQWEIFLEHVEQLNQITENARNTA 115  
Db 61 NIAGRIILGVLGVPFAGQIASFYSELVGLWPRGRDPWEIFLEHVEQLIRQVNTROTAT 120  
Qy 116 LARLOGLGDSPRAYQOQSLDLEWLNRRDARTSRVLTHTOYIALELDFLNAMPFAIRNQVVP 175  
Db 121 LARLOGLGNSPRAYQOQSLDLEWLNRRDARTSRVLTHTOYIALELDFLNAMPFAIRNQVVP 180  
Qy 176 LLMVYAAANLHLLLRDASLFGSEFGLTSQEIORYYERQVETRTDSDYCVWVNTGLN 235  
Db 181 LLMVYAAANLHLLLRDASLFGSEFGLTSQEIORYYERQVETRTDSDYCVWVNTGLN 240  
Qy 236 SLRGNTAAASWVRYNQFRRLDLTLGLVLDLVALPSPSYDTRTPINTSAQLTRREYVTDAGATG 295  
Db 241 NLRGNTAAESWLRYNQFRRLDLTLGLVLDLVALPSPSYDTRTPINTSAQLTRREYVTDAGATG 300  
Qy 296 V--NMASNMVNNAPSFSAIEAAIRSPHLLDFLEQLTIFSASSRWSNTRHMTYWRGHT 353  
Db 301 APSGFASTNFWNNAPSFSAIEAAIRSPHLLDFLEQLTIFSVLSRWSNTQYMYVWVGR 360  
Qy 354 IQSPPIGGGLNTSHGATNTSINPVLRFASRDVYRTESYAGVLLGWLGLYLPICHPVTR 413  
Db 361 LESRTIRGSJSTHGTNTSINPVLRFASRDVYRTESYAGVLLGWLGLYLPICHPVTR 418  
Qy 414 FNFTNPQNISDRGTANYSQPYESPGLOKQDSELPETTERPNVYESYSHLSHIGITLQ 473  
Db 419 FNWENPLN-SLRGSLLYTIGYTGVTQLFSELTETTERPNVYESYSHLSHIGITLQ 477  
Qy 474 SRVNVVYSWTHRSADRTNITIGPNRITQIPMVKASELPQGTTVVRGPGTGGDILRRTNT 533  
Db 478 NTLRAPVYSWTHRSADRTNITISSDSITQIPLVKSNLNSGTSVVSGPGTGGDILRRTNVN 537  
Qy 534 GGFPIRVTVNGPLTQRYRIGFRYASTVDFVSRGTTVNNFRFRLTWNSSGDELKYGN 593  
Db 538 GSVLSMGLNFNNTSLQRYRVRYAASQTMVLRVTVGGSTTFDQGPFTMSANESLTSQS 597  
Qy 594 FVRRATTPFTTQIDIIIRTSIQGLSGNGSVYDKTEIIPVTATFAEYDLEAQAQAVN 653  
Db 598 FRFAEFPVGISASGQ-TAGISISNNAGRTQTFHFDKIEFIPITATFAEYDLEAQAQAVN 656  
Qy 654 ALFTNTNPRRLKTDVTDYHIDQVSNLVACLSDEFCLDEKRELLKVKYAKLSDERNLLQ 713  
Db 657 ALFTNTNPRRLKTDVTDYHIDQVSNLVACLSDEFCLDEKRELLKVKYAKLSDERNLLQ 716  
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Db 717 DPNETSINKQPDFISTNEQSNFTSIHQSEHGWSNITIOEGNDVPKENVYTLPGTFN 776  
Qy 774 ECPYTYLYQKIGESSELKAYTRYQLRGVIEDSQDLEIYLIRYNAKHETLDVPGTESLWPLS 833  
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Qy 834 VESPIGRGCEPNRCAPHFEWNPDLDCSCRDGEKCAHSHHFSLDIDVCGTDLHENLGVWV 893  
Db 837 VESPIGRGCEPNRCAPHFEWNPDLDCSCRDGEKCAHSHHFSLDIDVCGTDLHENLGVWV 896  
Qy 894 VFKIQTQEGHARLGNLEFIEBKPLLGALSRVKAEEKWRDKREKLOLETKRVTYEAKEA 953  
Db 897 VFKIQTQEGHARLGNLEFIEBKPLLGALSRVKAEEKWRDKREKLOLETKRVTYEAKEA 956  
Qy 954 VDALLFVDSQYDRLOADTNGIMHAAKLVHRIEAYLSELVPIGVNAEIEELEGHIT 1013  
Db 957 VDALLFVDSQYDRLOADTNGIMHAAKLVHRIEAYLSELVPIGVNAEIEELEGHIT 1016

Qy 1014 AISLYDARNVVKNGDFNNGLTQWNVKGVHDVQQSHHRSDLVIPWEAEVSQAVRVCPCG 1073  
Db 1017 AISLYDARNVVKNGDFNNGLTQWNVKGVHDVQQSHHRSVLVIPWEAEVSQAVRVCPCG 1076  
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Db 1077 YILRVTAKEGYGEGCVTHIEIENNTDELKFNCEEEVYPTDTGTCTNDYTAHQGTAAA 1133  
Qy 1134 DACNSRNAGYEDAYEVDTTASVNYKPTYEEETDVRDHNHCEYDRGVVNYPPVPGYVT 1193  
Db 1134 -ACNSRNAGYEDAYEVDTTASVNYKPTYEEETDVRDHNHCEYDRGVVNYPPVPGYMT 1192  
Qy 1194 KELEYFPETDVMIEIGTEGKFIVDSVELLMEE 1228  
Db 1193 KELEYFPETDKWIEIGTEGKFIVDSVELLMEE 1227

Search completed: December 10, 2003, 18:16:30  
Job time : 27 secs



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OM protein - protein search, using sw model

Run on: December 10, 2003, 18:15:14 ; Search time 43 Seconds

(without alignments)  
5311.347 Million cell updates/sec

Title: US-09-661-0168-10

Perfect score: 6515

Sequence: 1 LTRNRKNEINAVNSHA.....IGETEGKFVDSVLLMEE 1228

Scoring table: BLOSUM62

Gapop 10.0 , Gapext 0.5

Searched: 684280 seqs, 185983659 residues

Total number of hits satisfying chosen parameters: 684280

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

Database : Published Applications AA:\*

- 1: /cgn2\_6/ptodata/2/pubaa/US07\_PUBCOMB.pep.\*
- 2: /cgn2\_6/ptodata/2/pubaa/PCT\_NEW\_PUB.pep.\*
- 3: /cgn2\_6/ptodata/2/pubaa/US06\_NEW\_PUB.pep.\*
- 4: /cgn2\_6/ptodata/2/pubaa/US06\_PUBCOMB.pep.\*
- 5: /cgn2\_6/ptodata/2/pubaa/US07\_NEW\_PUB.pep.\*
- 6: /cgn2\_6/ptodata/2/pubaa/PCTUS\_PUBCOMB.pep.\*
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- 10: /cgn2\_6/ptodata/2/pubaa/US09B\_PUBCOMB.pep.\*
- 11: /cgn2\_6/ptodata/2/pubaa/US09C\_PUBCOMB.pep.\*
- 12: /cgn2\_6/ptodata/2/pubaa/US09\_NEW\_PUB.pep.\*
- 13: /cgn2\_6/ptodata/2/pubaa/US10A\_PUBCOMB.pep.\*
- 14: /cgn2\_6/ptodata/2/pubaa/US10B\_PUBCOMB.pep.\*
- 15: /cgn2\_6/ptodata/2/pubaa/US10C\_PUBCOMB.pep.\*
- 16: /cgn2\_6/ptodata/2/pubaa/US10\_NEW\_PUB.pep.\*
- 17: /cgn2\_6/ptodata/2/pubaa/US60\_NEW\_PUB.pep.\*
- 18: /cgn2\_6/ptodata/2/pubaa/US60\_PUBCOMB.pep.\*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

# SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	6405	98.3	1207	11	US-09-988-462-7
2	4549	69.8	1186	9	US-09-826-660-23
3	3510.5	53.9	1189	11	US-09-972-175-59
4	3510.5	53.9	1189	12	US-10-200-522-59
5	3508.5	53.9	1189	11	US-09-972-175-2
6	3508.5	53.9	1189	12	US-10-200-522-2
7	3508	53.8	1177	9	US-09-873-873-10
8	3508	53.8	1177	9	US-09-873-873-12
9	3508	53.8	1177	11	US-09-873-873-14
10	3508	53.8	1177	11	US-09-997-914-10
11	3508	53.8	1177	11	US-09-997-914-12
12	3508	53.8	1177	11	US-09-997-914-14
13	3508	53.8	1177	12	US-10-365-645-10
14	3508	53.8	1177	12	US-10-365-645-12
15	3508	53.8	1177	12	US-10-365-645-14

16	3508	53.8	1181	11	US-09-988-462-11	Sequence 11, Appl
17	3508	53.8	1181	11	US-09-988-462-13	Sequence 12, Appl
18	3508	53.8	1181	11	US-09-988-462-17	Sequence 17, Appl
19	3508	53.8	1181	11	US-09-988-462-28	Sequence 26, Appl
20	3505	53.8	1177	9	US-09-873-873-26	Sequence 26, Appl
21	3505	53.8	1177	11	US-09-997-914-26	Sequence 26, Appl
22	3505	53.8	1177	12	US-10-365-645-26	Sequence 26, Appl
23	3504.5	53.8	1189	11	US-09-972-175-61	Sequence 61, Appl
24	3504.5	53.8	1189	12	US-10-200-522-61	Sequence 61, Appl
25	3504	53.8	1181	11	US-09-988-462-15	Sequence 15, Appl
26	3502.5	53.8	1189	11	US-09-972-175-4	Sequence 4, Appl
27	3502.5	53.8	1189	11	US-09-972-175-6	Sequence 6, Appl
28	3502.5	53.8	1189	12	US-10-200-522-4	Sequence 4, Appl
29	3502.5	53.8	1189	12	US-10-200-522-6	Sequence 6, Appl
30	3501.5	53.7	1189	11	US-09-972-175-10	Sequence 10, Appl
31	3501.5	53.7	1189	12	US-10-200-522-12	Sequence 12, Appl
32	3498.5	53.7	1189	11	US-09-972-175-8	Sequence 8, Appl
33	3498.5	53.7	1189	12	US-10-200-522-8	Sequence 8, Appl
34	3495.5	53.7	1189	11	US-09-972-175-10	Sequence 10, Appl
35	3495.5	53.7	1189	12	US-10-200-522-10	Sequence 10, Appl
36	3485.5	53.5	1189	12	US-10-102-469-20	Sequence 20, Appl
37	3481	53.4	1177	9	US-09-873-873-28	Sequence 28, Appl
38	3481	53.4	1177	11	US-09-997-914-28	Sequence 28, Appl
39	3481	53.4	1177	12	US-10-365-645-28	Sequence 28, Appl
40	3477	53.4	1177	15	US-10-035-060-6	Sequence 6, Appl
41	3476	53.4	1177	15	US-10-035-060-2	Sequence 2, Appl
42	3475	53.3	1177	15	US-10-035-060-8	Sequence 8, Appl
43	3467	53.2	1193	9	US-09-873-873-30	Sequence 30, Appl
44	3467	53.2	1193	11	US-09-997-914-30	Sequence 30, Appl
45	3467	53.2	1193	12	US-10-365-645-30	Sequence 30, Appl

## ALIGNMENTS

### RESULT 1

US-09-988-462-7  
; Sequence 7, Application US/09988462  
; Publication No. US20030046726A1  
; GENERAL INFORMATION:

APPLICANT: Koziel, Michael G.  
Desai, Nalini M.  
Lewis, Kelly S.  
Kramer, Vance C.  
Warren, Gregory W.  
Evola, Stephen V.  
Crossland, Lyle D.  
Wright, Martha S.  
Merlin, Ellis J.  
Lauais, Karen L.

TITLE OF INVENTION: SYNTHETIC DNA SEQUENCE HAVING ENHANCED  
INSECTICIDAL ACTIVITY IN MAIZE

NUMBER OF SEQUENCES: 94

CORRESPONDENCE ADDRESS:

ADDRESSEE: Syngenta Biotechnology, Inc.

STREET: 3054 Cornwallis Road

CITY: Research Triangle Park

STATE: NC

COUNTRY: USA

ZIP: 27709

COMPUTER READABLE FORM:

MEDIUM TYPE: Floppy disk

COMPUTER: IBM PC compatible

OPERATING SYSTEM: PC-DOS/MS-DOS

SOFTWARE: Patentin Release #1.0, Version #1.30

CURRENT APPLICATION DATA:

APPLICATION NUMBER: US/09/988.462

FILING DATE: 20-No. US20030046726A1-2001

CLASSIFICATION: <Unknown>

PRIOR APPLICATION DATA:

APPLICATION NUMBER: US 09/547.422

FILING DATE: 11-APR-2000

APPLICATION NUMBER: US 08/459.504

;  
; FILING DATE: 02-JUN-1995  
; APPLICATION NUMBER: US 07/951,715  
; FILING DATE: 25-SEP-1992  
; APPLICATION NUMBER: US 07/772,027  
; FILING DATE: 04-OCT-1991  
; ATTORNEY/AGENT INFORMATION:  
; NAME: Meigs, J. Timothy  
; REGISTRATION NUMBER: 38,241  
; REFERENCE/DOCKET NUMBER: S-188051  
; TELECOMMUNICATION INFORMATION:  
; TELEPHONE: (919)541-8587  
; TELEFAX: (919)541-8689  
; INFORMATION FOR SEQ ID NO: 7:  
; SEQUENCE CHARACTERISTICS:  
; LENGTH: 1207 amino acids  
; TYPE: amino acid  
; TOPOLOGY: linear  
; MOLECULE TYPE: protein  
; SEQUENCE DESCRIPTION: SEQ ID NO: 7:  
US-09-988-462-7

Query Match 98.3%; Score 6405; DB 11; Length 1207;  
Best Local Similarity 99.9%; Pred. No. 0;  
Matches 1206; Conservative 1; Mismatches 0; Indels 0; Gaps 0;  
QY 22 MDLLPDARIEDSLCIAEGNNIDPFVSASTVOTGINIAGRIILGVLPFAGOLASFSYFLV 81  
DB 1 MDLLPDARIEDSLCIAEGNNIDPFVSASTVOTGINIAGRIILGVLPFAGOLASFSYFLV 60  
QY 82 GELWPRGDQWEIFLEHVEQLINQITENARNTALARLQGLGDSFRAYQQSLEDWLENRD 141  
DB 61 GELWPRGDQWEIFLEHVEQLINQITENARNTALARLQGLGDSFRAYQQSLEDWLENRD 120  
QY 142 DARTSVLHTQVIALELDFLNAFLFAIRNQEVPLLMVYAQAANLHLLLRDASLFGSEF 201  
DB 121 DARTSVLHTQVIALELDFLNAFLFAIRNQEVPLLMVYAQAANLHLLLRDASLFGSEF 180  
QY 202 GLTSGEIOKRYERQVRYRDSYDVCVWYNTGLNSLRGTNAASVRYNQFRDLTLGLVD 261  
DB 181 GLTSGEIOKRYERQVRYRDSYDVCVWYNTGLNSLRGTNAASVRYNQFRDLTLGLVD 240  
QY 262 LVALPFSYDTRTYPINTSAQLTREYVYDAIGATGYNMAMNMYNNNPFSAIEAAAIRS 321  
DB 241 LVALPFSYDTRTYPINTSAQLTREYVYDAIGATGYNMAMNMYNNNPFSAIEAAAIRS 300  
QY 322 PHLLDFLQTLTIFSSASSRNSNRHTYWRGHTIQSRPIGGGLNTSTHGATNTSINPVTIR 381  
DB 301 PHLLDFLQTLTIFSSASSRNSNRHTYWRGHTIQSRPIGGGLNTSTHGATNTSINPVTIR 360  
QY 382 PASRDVRYTESVAGVLLWGIYLEPIHGVPTVRPNFTNQISDRGTANYSPYSPGLQL 441  
DB 361 PASRDVRYTESVAGVLLWGIYLEPIHGVPTVRPNFTNQISDRGTANYSPYSPGLQL 420  
QY 442 KDSETELPETTERPNYESYSHRSHIGIILQSRVNVVYSWTHRSADRTNTIGPNRITQ 501  
DB 421 KDSETELPETTERPNYESYSHRSHIGIILQSRVNVVYSWTHRSADRTNTIGPNRITQ 480  
QY 502 IPWKASELPQGTTVVRGPGFTGGDILRRNTNGGPGPIRVTVNGPLTORIYRIGFYASTV 561  
DB 481 IPWKASELPQGTTVVRGPGFTGGDILRRNTNGGPGPIRVTVNGPLTORIYRIGFYASTV 540  
QY 562 DFDFVSRGGTTVNNFRFLRTWNSGDELKYGNFVRRAPFTTPTFTQIOIDIRTSIQGLSG 621  
DB 541 DFDFVSRGGTTVNNFRFLRTWNSGDELKYGNFVRRAPFTTPTFTQIOIDIRTSIQGLSG 600  
QY 622 NGEVIDKIEIIPVTATPEAYDLERAQAVNALFTNTNPRKLKTDVTDYHIDQVSNLVA 681  
DB 601 NGEVIDKIEIIPVTATPEAYDLERAQAVNALFTNTNPRKLKTDVTDYHIDQVSNLVA 660  
QY 682 CLSDFECLDEKRELLEKVKYAKRLSDERNLLQDPNFTSINKQPDFISTNEQSNFTSIHEQ 741  
DB 661 CLSDFECLDEKRELLEKVKYAKRLSDERNLLQDPNFTSINKQPDFISTNEQSNFTSIHEQ 720

QY 742 SEHGWSGSENIITQEGNDVFKENYVTLPGTFNECYPTLYQKIGSELSKAYTRYQLRGYI 801  
DB 721 SEHGWSGSENIITQEGNDVFKENYVTLPGTFNECYPTLYQKIGSELSKAYTRYQLRGYI 780  
QY 802 EDSQDLIYLIIRYNAKHETLDVPGTESLWPLSVESPIGRCEPNRCAPHPFWNPDLDCSC 861  
DB 781 EDSQDLIYLIIRYNAKHETLDVPGTESLWPLSVESPIGRCEPNRCAPHPFWNPDLDCSC 840  
QY 862 RDGEKCAHSHHFSLDIDVGCTDLHENLGVVWVFKIKTOEGHARLGNLFELEKPLLGEA 921  
DB 841 RDGEKCAHSHHFSLDIDVGCTDLHENLGVVWVFKIKTOEGHARLGNLFELEKPLLGEA 900  
QY 922 LSRVKRAEKKWRDKREKLQLETKRVYVTEAKEAVDALFVDSQYDRLOADTNIEMIHAADKL 981  
DB 901 LSRVKRAEKKWRDKREKLQLETKRVYVTEAKEAVDALFVDSQYDRLOADTNIEMIHAADKL 960  
QY 982 VHRIRAYLSLSELPVPGVNAEIFEELSGHIITAIISLDARVNVKNGDFNGLTCWNVKGH 1041  
DB 961 VHRIRAYLSLSELPVPGVNAEIFEELSGHIITAIISLDARVNVKNGDFNGLTCWNVKGH 1020  
QY 1042 VDVOQSHRSDLVPIPEWEAEVSQAVRVCPCGCGYILRVTAKEGYGEGCVTTHEIENNTDE 1101  
DB 1021 VDVOQSHRSDLVPIPEWEAEVSQAVRVCPCGCGYILRVTAKEGYGEGCVTTHEIENNTDE 1080  
QY 1102 LKFXNRBEEVEYPTDGTGTCNDYTAHQGTAGCADACNSRNAGYEDAYEYDVTTSVNYKPTY 1161  
DB 1081 LKFXNRBEEVEYPTDGTGTCNDYTAHQGTAGCADACNSRNAGYEDAYEYDVTTSVNYKPTY 1140  
QY 1162 BEETYTVRRDNHCEYDRGVNYPVPAGYVTKLEYFPETDVTWIEIGETEGKFIVDSV 1221  
DB 1141 BEETYTVRRDNHCEYDRGVNYPVPAGYVTKLEYFPETDVTWIEIGETEGKFIVDSV 1200  
QY 1222 ELLLMEE 1228  
DB 1201 ELLLMEE 1207

## RESULT 2

US-09-826-660-23  
; Sequence 23, Application US/09826660  
; Patent No. US20010026940A1  
; GENERAL INFORMATION:  
; APPLICANT: Cardineau, Guy A.  
; APPLICANT: Stelman, Steven J.  
; APPLICANT: Narva, Kenneth E.  
; TITLE OF INVENTION: Plant-Optimized Genes Encoding Pesticidal Toxins  
; FILE REFERENCE: MA-714XC2D1  
; CURRENT APPLICATION NUMBER: US/09/826,660  
; CURRENT FILING DATE: 2001-04-05  
; PRIOR APPLICATION NUMBER: 09/178,252  
; PRIOR FILING DATE: 1998-10-23  
; PRIOR APPLICATION NUMBER: 60/065,215  
; PRIOR FILING DATE: 1997-11-12  
; PRIOR APPLICATION NUMBER: 60/076,445  
; PRIOR FILING DATE: 1998-03-02  
; NUMBER OF SEQ ID NOS: 27  
; SOFTWARE: PatentIn Ver. 2.0  
; SEQ ID NO 23  
; LENGTH: 1186  
; TYPE: PRT  
; ORGANISM: Artificial Sequence  
; FEATURE:  
; OTHER INFORMATION: Toxin encoded by synthetic B.t. gene  
US-09-826-660-23

Query Match 69.8%; Score 4549; DB 9; Length 1186;  
Best Local Similarity 72.5%; Pred. No. 0;  
Matches 899; Conservative 96; Mismatches 179; Indels 66; Gaps 10;  
QY 1 LTSNRKNEIIN-----AVSNHSAQMDLLDPARIEDSLCIAEGNNIDPFVSASTVQTGI 55  
DB 1 MTSNRKNEIINLSIPAVSNHSAQMDLSTPARIEDSLCIAEGNNIDPFVSASTVQTGI 60

QY 56 NIAGRILGVLGVPFAGQLASFYSLVGLWPRGRDQWEIFLHSHVQLINQOITENARNTA 115  
 Db 61 NIAGRILGVLGVPFAGQIASFYSLVGLWPRGRDPWEIFLHSHVQLIRQOITENRDTA 120  
 QY 116 LARLOGLGDSFRAYQOOSLEDWLENRDDARTSVLHTQVIALELDFLNAMPLFAIRNQEV 175  
 Db 121 LARLOGLGNSFRAYQOOSLEDWLENRDDARTSVLHTQVIALELDFLNAMPLFAIRNQEV 180  
 QY 176 LLMVYAQANLHLILLRLDASLFGSFGTLTQBIQRYEROVERTRDYSYCVWNTGN 235  
 Db 181 LLMVYAQANLHLILLRLDASLFGSFGTLTQBIQRYEROVERTRDYSYCVWNTGN 240  
 QY 236 SLRGTTAAASWRYNFRDLTLGVLDLVALPSPYDTRTPINTSAQLTRVVTDAIGATG 295  
 Db 241 NLRGTTAAASWRYNFRDLTLGVLDLVALPSPYDTRTPINTSAQLTRVVTDAIGATG 300  
 QY 296 V--NMASMNWYNNAPSPFAISAAIRSPHLLDFLEQTIFSSASRWNTRHMTYWRGHT 353  
 Db 301 APSGFASTNWFNNAPSPFAISAAIRSPHLLDFLEQTIFSSASRWNTRHMTYWRGHT 360  
 QY 354 IQSRPIGGLTSTHGATNTSINPVLTPASRDVYRTESYAGVLLWGLYLEPIHGVPVR 413  
 Db 361 LESRTIRGSLSTHGATNTSINPVLTPASRDVYRTESYAGVLLWGLYLEPIHGVPVR 418  
 QY 414 NFNTNPQISDRGTANYOPYESPGLQKDSLTPETTERPNYESYSHRSLHIGIILQ 473  
 Db 419 FNRWPLN-SURGSLYITIGYGTGVTQLFDSLTPETTERPNYESYSHRSLHIGIILQ 477  
 QY 474 SRVNPVYSWTHRSADRTNTIGPNRITQIPMYKASELPQGTIVVRPGFTGDIILRTNT 533  
 Db 478 NTLRAPVYSWTHRSADRTNTISSITQIPLVKSFNLNSGTSVSGPGFTGDIILRTNV 537  
 QY 534 GGFGRIVTVNGPLTORVIRGRYASTVDFFVSRGGTNNPFLPMTSGSDELKYN 593  
 Db 538 GSVLSMGLNFNTSLQRYRVRVRYAASQTMVLRTVGGSTTFDQGFPTSGANESLTSQS 597  
 QY 594 FVRRAPFTPTFTQODIIRTSIQGLSGNGEYIDKIELIPVATFEAYDIERAQEAVN 653  
 Db 598 FRFAEPFVIGISASGQ-TAGISISNNAKQRTFHDKIEFIPITATLEAESDLERAQKAVN 656  
 QY 654 ALFTNTNPRRLKTDVTHIDOVSNLVAFLSDFCLDEKRELLKVKYAKLSDBERNLLQ 713  
 Db 657 ALFTSSNQIGLKTVDTHIDVSNLVECLDFCLDEKRELLKVKYAKLSDBERNLLQ 716  
 QY 714 DPNFTSINKQPFISTNEQSNTSIHQSEHGWSGSENIITQEGNDVFKENYVTLPGTFN 773  
 Db 717 DPNFRGINRQLD-----RGWRGSTDTITQGGDDVFKENYVTLGTFD 758  
 QY 774 ECPYLYOKIGESLKYATRYOLRGYIEDSDLEIYLIRYNAKHETLDVPGTSLWPLS 833  
 Db 759 ECPYLYOKIGESLKYATRYOLRGYIEDSDLEIYLIRYNAKHETVNVPGTSLWPLS 818  
 QY 834 VESPIGRGCEPNRCAPHEWNPDLDCSRDGEKCAHSHHFSLDIDVGCTDLHNLGVV 893  
 Db 819 APSPIG-----KCAHSHHFSLDIDVGCTDLHNLGVV 852  
 QY 894 VPKITQEQHARLGNLEFIEKPLGEALSRVKAERKWRDREKQLQETKRVTYEAKEA 953  
 Db 853 IFKIKTDGCHARLGNLEFIEKPLGEALSRVKAERKWRDREKQLQETKRVTYEAKEA 912  
 QY 954 VDALLVDSQYDRLOADTHIGHIHAADKLVRHIREAYLSLSELVPIPGVNAIIFEELEHIT 1013  
 Db 913 VDALLVDSQYDRLOADTHIGHIHAADKLVRHIREAYLSLSELVPIPGVNAIIFEELEHIT 972  
 QY 1014 AISLYDARNVNGKDFNGLTCNWKVGHVDV-QQSHHRSDLVIPEWAEVSOAVRVCPC 1072  
 Db 973 AFSLYDARNVNGKDFNGLTCNWKVGHVDV-QQSHHRSDLVIPEWAEVSOAVRVCPC 1032  
 QY 1073 GYILRVATYKEGCGCVTTHIEINNTDELKFKREBEVYPTDTGTCDNYTA----HQ 1128  
 Db 1033 GYILRVATYKEGCGCVTTHIEINNTDELKFKREBEVYPTDTGTCDNYTA----HQ 1092  
 QY 1129 TAGCADACNRSNAGYEDAYEDVDTTASVNYKPTYBEETVTVRRDNHCEYDRGVNPPVP 1188

Db 1093 T-----YTSNRGTDGAYESNVPADYAAAYEKAYTDGRRDNPCSNRGYGYDTFLP 1146  
 QY 1189 AGYVTKLEYPPETDTVMWIEIGETEGKFIVDSVELLMEE 1228  
 Db 1147 AGYVTKLEYPPETDKWIEIGETEGKFIVDSVELLMEE 1186  
 RESULT 3  
 US-09-972-175-59  
 ; Sequence 59, Application US/09972175  
 ; Publication No. US20030101482A1  
 ; GENERAL INFORMATION:  
 ; APPLICANT: Baum, James A.  
 ; Gilmer, Amy Jelen  
 ; Mettus, Anne-Marie Light  
 ; TITLE OF INVENTION: TRANSGENIC PLANTS EXPRESSING  
 ; LEPIDOPTERAN-ACTIVE-DELTA-ENDOTOXINS  
 ; NUMBER OF SEQUENCES: 76  
 ; CORRESPONDENCE ADDRESS:  
 ; ADDRESSEE: Arnold, White & Durkee  
 ; STREET: P.O. Box 4433  
 ; CITY: Houston  
 ; STATE: Texas  
 ; COUNTRY: USA  
 ; ZIP: 77210  
 ; COMPUTER READABLE FORM:  
 ; MEDIUM TYPE: Floppy disk  
 ; COMPUTER: IBM PC compatible  
 ; OPERATING SYSTEM: PC-DOS/MS-DOS  
 ; SOFTWARE: Patentin Release #1.0, Version #1.30  
 ; CURRENT APPLICATION DATA:  
 ; APPLICATION NUMBER: US/09/972.175  
 ; FILING DATE: 05-Oct-2001  
 ; CLASSIFICATION: <Unknown>  
 ; PRIOR APPLICATION DATA:  
 ; APPLICATION NUMBER: 09/337,635  
 ; FILING DATE: <Unknown>  
 ; ATTORNEY/AGENT INFORMATION:  
 ; NAME: Kitchell, Barbara S.  
 ; REGISTRATION NUMBER: 33,928  
 ; REFERENCE/DOCKET NUMBER: MECO.206  
 ; TELECOMMUNICATION INFORMATION:  
 ; TELEPHONE: 512/418-3000  
 ; TELEFAX: 512/474-7577  
 ; INFORMATION FOR SEQ ID NO: 59:  
 ; SEQUENCE CHARACTERISTICS:  
 ; LENGTH: 1189 amino acids  
 ; TYPE: amino acid  
 ; TOPOLOGY: linear  
 ; MOLECULE TYPE: protein  
 ; SEQUENCE DESCRIPTION: SEQ ID NO: 59:  
 ; US-09-972-175-59  
 Query Match 53.9%; Score 3510.5; DB 11; Length 1189;  
 Best Local Similarity 58.1%; Pred. No. 5.1e-301;  
 Matches 729; Conservative 128; Mismatches 296; Indels 101; Gaps 21;  
 QY 7 NENEII--NAVSNHSAQMDLLPDARIEDSLCIAEGN-NIDPFVSASTVQTGINAGTILG 63  
 Db 5 NQNCIPYCNLSN-----PEVLLDGERISTGNSSID--ISLSLVQ-----FLV 46  
 QY 64 VLGVPPAQLASFYSLVGLWPRGRDQWEIFLHSHVQLINQOITENARNTALARLOGLG 123  
 Db 47 SNFVPGGFLVGLIDFWGIVGP---SQWDAFLVQIQLINERIAEFARNAIANLEGLG 103  
 QY 124 DSFRAYQOOSLEDWLENRDDARTSVLHTQVIALELDFLNAMPLFAIRNQEVPLLMVYAQA 183  
 Db 104 NNFNIYVFAKFEWEDNNPATRTRVDRPILDGLLERDIPSPFAISGFEVPLLSVYAQA 163  
 QY 184 ANLHLLLRASLFGSFGTLTQBIQRYEROVERTRDYSYCVWNTGNLSRGCTNAA 243  
 Db 164 ANLHLLLRASLFGSFGTLTQBIQRYEROVERTRDYSYCVWNTGNLSRGCTNAA 223

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QY 244 SWRYNQRRDLTLGVLDLVALFSPSYDTRTPINTSAQLTRVYTDALGATGVNMAW 303
D 224 DWITYNLRRLDRLTLVLDIAAFPNYDNRYPYIQPVGQLTRVYTDPL----INFNPOLQ 279
QY 304 YNNAPSAIEAAAIRSPHLLDFLEQITIFSASSRWNTHRMTYWRGHTTQSRPIGGGL 363
D 280 SVAQLPTFNWESSAIRNPHLFDILNLTIF---TDMFSVGRNFWGHRVSSILGGN 336
QY 364 NTS--THGATNTSINPVLTRFASRDVYRTESYAGVLL---NGIYLEPHGVPTVRFNF-T 417
D 337 ITSPIYGREANQEPFRSFTF-NGPVFTLSNPTLRLQLQPPAPFPNLRGVEGFSTPT 395
QY 418 NPQNSIDRGATANYSQPYESPGQLKDSLETLPPTTERPNYESYSHRLSHIGIILQSRVN 477
D 396 NSFTYRGRGTV-----DSLTELPEPDNSVPPREGYSHRLCHATFV--QRSG 439
QY 478 VP-----VYSWTHRSADRTNTIGNRITQIPMKASSELPOGTTVVRGPGTGGDILART 531
D 440 TPFLLTTGVVFSWTHRSATLNTIDPERINQIPLVKGRVWGTSVITGPGTGGDILARN 499
QY 532 NTGFGPIRVTVNGPLTORVIRGRYASTVDFDPFSRGGTTVN-----NFRPLRTMN 584
D 500 TFGDFVSLQVNSINPITQRYLRFRYASSRDARVILVTGAASTGVGGQVSNMPLQKTM 559
QY 585 SGDELKYGNFVRRAPTPTFTTQIQDIIRTSIQGLSG-----NGEVIYDKIEIIPVTATF 639
D 560 IGENLTSRTFRYTDPSNPFSPFRANPDIIIGSEQPLFGAGSISSGELYIDKIEIILADATF 619
QY 640 EAYDLEAQAQAVNALFTNTPNRRLKTDVYHIDQVSNLVACLSDEFCLDEKRELLBKV 699
D 620 EAESDLERAQAVNALFTSSNQIGLKTDVYHIDQVSNLVACLSDEFCLDEKRELLSEKV 679
QY 700 KYAKELSDERNLLQDPNFTSINKOPDFTSTNEQSFTSIHQSESHGWGSENIITIOEND 759
D 680 KHAKELSDERNLLQDPNFRGINRQPD-----RGMWGSDDITIQGGDD 721
QY 760 VPKENYVTLPGTFNECYPTLYQKIGESSELKAYTRYQLRGVIEDSQDLEIYLIRNAKHE 819
D 722 VPKENYVTLPGTVDECYPTLYQKIDESKLKAYTRYELRGVIEDSQDLEIYLIRNAKHE 781
QY 820 TLDPVGTSLMPLSVESPIGRGEPNRCAPHEWNPDLDCSCRDGEKCAHSHHPSLDID 879
D 782 IVNVPGTSLMPLSAQSPITGKGEPNRCAPHEWNPDLDCSCRDGEKCAHSHHFTLID 841
QY 880 VCGTDLHENLGVVVFVKIQEGHARLGNLFEIEKPLLGALSRLVKAEEKWRDKREKL 939
D 842 VCGTDLNEDLGVVVFVKIQEGHARLGNLFEIEKPLLGALSRLVKAEEKWRDKREKL 901
QY 940 QLETKRVYTEAKEADVALFVDSQYDRLOADNTNIGMHAADKLVRHIREAYLSELVPIGV 999
D 902 QLETNIVYKEAKESVDALFVNSQYDRLOQVDTNIAHHAADKVRHIREAYLSELVPIGV 961
QY 1000 NAEIFEELEGHITIAISLYDARNVKGDFNNGLTFCWNVKHVDV-QQSHRSDLVPIEW 1058
D 962 NAAIFEELEGRIFTAISLYDARNVKGDFNNGLTFCWNVKHVDV-QQSHRSDLVPIEW 1021
QY 1059 EAEVQAVRVCGCGYILRVYAKYEGYGGCVTHIEINNTDELKFKRESEVYPTDG 1118
D 1022 EAEVQAVRVCGCGYILRVYAKYEGYGGCVTHIEINNTDELKFKRESEVYPTDG 1081
QY 1119 TCNDYTA---HQGTAGCADACNSNAGYEDAYEDVTTASVNYKPTYEETVTDVRRDNH 1174
D 1082 TCNNYTGTOEEYEGT-----YTSRNGQYDEAYGNPNPVPADYASVYEKSYTDGREN 1135
QY 1175 CSDRGVNVYPVAGYVTKLEYPPETDTVMWIEIGETEGKPIVDSVELLMEE 1228
D 1136 CESNRGVDGYTLPAGYVTKLEYPPETDKVMWIEIGETEGTPIVDSVELLMEE 1189
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RESULT 4

US-10-200-522-59

; Sequence 59, Application US/10200522

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; Publication No. US20030195336A1
; GENERAL INFORMATION:
; APPLICANT: Baum, James A.
; APPLICANT: Gilmer, Amy Jelen
; APPLICANT: Mettue, Anne Marie Light
; TITLE OF INVENTION: NUCLEIC ACID AND POLYPEPTIDE COMPOSITIONS ENCODING LEPIDOPTERAN-T
; TITLE OF INVENTION: POLYPEPTIDES
; FILE REFERENCE: MECO:213 (11792.0213 DVUS01)
; CURRENT APPLICATION NUMBER: US/10/200,522
; CURRENT FILING DATE: 2002-07-22
; PRIOR APPLICATION NUMBER: 09/337,280
; PRIOR FILING DATE: 1999-06-22
; PRIOR APPLICATION NUMBER: 08/980,071
; PRIOR FILING DATE: 1997-11-26
; PRIOR APPLICATION NUMBER: 08/757,536
; PRIOR FILING DATE: 1996-11-27
; NUMBER OF SEQ ID NOS: 76
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 59
; LENGTH: 1189
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Recombinant Delta Endotoxin
US-10-200-522-59
```

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Query Match 53.9%; Score 3510.5; DB 12; Length 1189;
Best Local Similarity 58.1%; Pred. No. 5.1e-301;
Matches 729; Conservative 128; Mismatches 296; Indels 101; Gaps 21;

QY 7 NENEII--NAVSNHSAQMDLLPDARIEDSICIAEAGN-NIDPFVFSASTVQTGINAGRILG 63
D 5 NONQICPVNCLN-----PEBVLDGERISTGSSID--ISLSLVQ-----FLV 46
QY 64 VLGVPPAGQALASFYSFLVGLWPRGRDQWEIFLHVQLINQOITENARNTALARLOGLG 123
D 47 SNFVPGGGFLVGLDFFVMGIVGP---SQWDAFLVQIEQLINERIAEFARNAAIANLEGL 103
QY 124 DSPRAYQOQSLDLENRDDARTSVLHTQVIALELDLFLNAMPLFAIRNQEVPLLMVYAQA 183
D 104 NFNVIYEAKEWEEDPNPATRTRVDRFLDGLLERDIPSAISGFEPVLLSVYAQA 163
QY 184 ANLHLLLRDLASLFGSEBGLTSQBIQRYERQVBERTRDYSYCVWEVNTGNSLRGTAA 243
D 164 ANLHLAIRDVIFGERWGLTINNVENYNRLRHIDYADHCANTYNRGLNLPASTYQ 223
QY 244 SWRYNQRRDLTLGVLDLVALFSPSYDTRTPINTSAQLTRVYTDALGATGVNMAW 303
D 224 DWITYNLRRLDRLTLVLDIAAFPNYDNRYPYIQPVGQLTRVYTDPL----INFNPOLQ 279
QY 304 YNNAPSAIEAAAIRSPHLLDFLEQITIFSASSRWNTHRMTYWRGHTTQSRPIGGGL 363
D 280 SVAQLPTFNWESSAIRNPHLFDILNLTIF---TDMFSVGRNFWGHRVSSILGGN 336
QY 364 NTS--THGATNTSINPVLTRFASRDVYRTESYAGVLL---NGIYLEPHGVPTVRFNF-T 417
D 337 ITSPIYGREANQEPFRSFTF-NGPVFTLSNPTLRLQLQPPAPFPNLRGVEGFSTPT 395
QY 418 NPQNSIDRGATANYSQPYESPGQLKDSLETLPPTTERPNYESYSHRLSHIGIILQSRVN 477
D 396 NSFTYRGRGTV-----DSLTELPEPDNSVPPREGYSHRLCHATFV--QRSG 439
QY 478 VP-----VYSWTHRSADRTNTIGNRITQIPMKASSELPOGTTVVRGPGTGGDILART 531
D 440 TPFLLTTGVVFSWTHRSATLNTIDPERINQIPLVKGRVWGTSVITGPGTGGDILARN 499
QY 532 NTGFGPIRVTVNGPLTORVIRGRYASTVDFDPFSRGGTTVN-----NFRPLRTMN 584
D 500 TFGDFVSLQVNSINPITQRYLRFRYASSRDARVILVTGAASTGVGGQVSNMPLQKTM 559
QY 585 SGDELKYGNFVRRAPTPTFTTQIQDIIRTSIQGLSG-----NGEVIYDKIEIIPVTATF 639
D 560 IGENLTSRTFRYTDPSNPFSPFRANPDIIIGSEQPLFGAGSISSGELYIDKIEIILADATF 619
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QY 640 EAEYDLERAQAVNALFTNTNRRKTKTDVTDYHIDOVSNLVACLSDEKRELEK 699
Db 620 EAEYDLERAQAVNALFTNTNRRKTKTDVTDYHIDOVSNLVACLSDEKRELEK 679
QY 700 KYAKRLSDERNLLQDPNFTSINKQPDFISTNEQSNFTSIHQSEHGWSGSENIITQEGND 759
Db 680 KHAKRLSDERNLLQDPNFRGINRQPD-----RGWGSTDTITIQGDD 721
QY 760 VKENYVTLPGTFNCPYLYKQKIGESLKAQYQRYGIEDSDQLEIYLIRYNAKHE 819
Db 722 VKENYVTLPGTFNCPYLYKQKIGESLKAQYQRYGIEDSDQLEIYLIRYNAKHE 781
QY 820 TLDVPGTSLPLSVESPIGRGCEPNRCAPHEWNPDLDCSCRDCEKCAHSHHFTLID 879
Db 782 IVNVPGTSLPLSAQSPYKCGEPNRCAPHEWNPDLDCSCRDCEKCAHSHHFTLID 841
QY 880 VQCTDLHENLGVVWVFKTKTOGHARLGNLEFIEBKPLLGALSRVKAERKWRDKREKL 939
Db 842 VQCTDLNEDLGVWVFKTKTOGHARLGNLEFIEBKPLLGALSRVKAERKWRDKREKL 901
QY 940 QLETKRVYTEAKEAVDALFVDSQYDRLOADTNIGMIHAADKLVRHIREAYILSELVPIGV 999
Db 902 QLETKRVYTEAKEAVDALFVDSQYDRLOADTNIGMIHAADKLVRHIREAYILSELVPIGV 961
QY 1000 NAEIPEELECHITITAIISLYDARNVYKNGDFNGLTCWVVKGHVDY-QQSHRSDLVIPDW 1058
Db 962 NAEIPEELECHITITAIISLYDARNVYKNGDFNGLTCWVVKGHVDY-QQSHRSDLVIPDW 1021
QY 1059 EAEYQAVRVCPGCGYILRVYAYKYGEGCVTTHIEINNTDELKFKVREBEVYPTDTG 1118
Db 1022 EAEYQAVRVCPGCGYILRVYAYKYGEGCVTTHIEINNTDELKFKVREBEVYPTDTG 1081
QY 1119 TCNDYTA-----HOGTAGCADACNSRNAGYDAYEYDVTTSVNYKPYTEETVTVRRDNH 1174
Db 1082 TCNDYTGQEEVEGT-----YTSRQGVDAEYAGNPNVPADYASVYEEKSYTDGRREN 1135
QY 1175 CEYDRGVNYPVPAGYTKLEYPPETDTVWIEIGETEGTFIVDSVELLME 1228
Db 1136 CESNRGVDYTPLPAGYTKLEYPPETDTVWIEIGETEGTFIVDSVELLME 1189

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RESULT 5

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US-09-972-175-2
; Sequence 2, Application US/09972175
; Publication No. US20030101482A1
; GENERAL INFORMATION:
; APPLICANT: Baum, James A.
;           Gilmer, Amy Jelen
;           Mettue, Anne-Marie Light
; TITLE OF INVENTION: TRANSGENIC PLANTS EXPRESSING
;           LEPIDOPTERAN-ACTIVE-DELTA-ENDOTOXINS
; NUMBER OF SEQUENCES: 76
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Arnold, White & Durkee
; CITY: Houston
; STATE: Texas
; COUNTRY: USA
; ZIP: 77210
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patent In Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/09972,175
; FILING DATE: 05-Oct-2001
; CLASSIFICATION: <Unknown>
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 09/337,635
; FILING DATE: <Unknown>
; ATTORNEY/AGENT INFORMATION:

```

```

; NAME: Kitchell, Barbara S.
; REGISTRATION NUMBER: 33,928
; REFERENCE/DOCKET NUMBER: MECO:206
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 512/418-3000
; TELEFAX: 512/474-7577
; INFORMATION FOR SEQ ID NO: 2:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 1189 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: protein
; SEQUENCE DESCRIPTION: SEQ ID NO: 2:
US-09-972-175-2

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Query Match 53.9%; Score 3508.5; DB 11; Length 1189;
Best Local Similarity 58.1%; Pred. No. 7.7e-301;
Matches 729; Conservative 128; Mismatches 296; Indels 101; Gaps 21;
QY 7 NENEII--NAVSNHSAQMOLLDPARIEDSLCIAEEN-NIDPFVSASTVQTGINIAGRILG 63
Db 5 NQNCIPYCNLSN-----PEVLLDGERISTGNSID--ISLSLVQ-----FLV 46
QY 64 VLGVPPAGQLASFYSFLVGLWPRGRDQWEIFLEHVEQLINQOITENARNVTLARLOGIG 123
Db 47 SNFVPGGFLVGLIDFVWGIWGP---SOWDAFLVQIEQLINERIAEFARNAAIANLEGLG 103
QY 124 DSFRAYQOSLEDWLENDDARTSRVLTQYITALELDFLNAMPFAIRNOEVPPLLMVYQA 183
Db 104 NNFNIYVEAFKEWEEDPNPATRTRVIDRFRILDGLLERDIPSAISGFVPLLSVYQA 163
QY 184 ANHLLLRDASLPGSEFGLTSQEIQRYERQVTRDYSDYCVIEWNTGNSLRGTNA 243
Db 164 ANHLAILRDSVIFGERWGLTINNVNENYLRIRHIDEYADHCANTYRGNLNLPKSTYQ 223
QY 244 SWRYNQFRDLTLGLVDLVALFSPYTRTPYNTSAQLTREYVYTDAGTGVNMAW 303
Db 224 DWITYNLRRLDLTLVLDIAAFPNYDNRYPYQVQQLTREYVYTDPL----INFNPQLQ 279
QY 304 YNNAPSFSAIEAAIRSPHLLDLEQITIFSASSRNSNTRHMTYWRGHTIQSRPIGGGL 363
Db 280 SVAQLPTFNWESSAIRNPHLFDILNLTIF---DDWFSVGRNFWGHRVSISSLIGGN 336
QY 364 NTS--THGATNTSINPVTLRFAASRDVYRTESYAGVLL----WGIYLEPIHGVTYRNF-T 417
Db 337 ITSPYICREANQEBPERSFTF-NGVPFRTLSNPTLRLLQQWPAPPPNLRGVEGFSTPT 395
QY 418 NPQNISDRGTANYSQPYESPLQLKDSSETLPPTTERPNVYESYSHRSLHIGIILQSRVN 477
Db 396 NSFTYRGRGTV-----DSLTELPPEDNSVPPREGYSRHLCHATFV--QRSG 439
QY 478 VP-----VYSWTHRSADRTNIGPNRI TOI PMVKASELPQGTTVVRGPGTGGDILRRT 531
Db 440 TPFLTTCGVFSWTHRSATLNTIDPERINQIPLVKGFVWVGTSVITGPGTGGDILRRT 499
QY 532 NTGCGFPIRVTVNGPLTQRYRIGFRYASTVDVDFVFSRGGTTVN-----NFRFLRTMN 584
Db 500 TFGDFVSLQVNSPITQRYRLRFYASSRDRARVILVLTGAASTGVGGVSNMPLQKTM 559
QY 585 SGDELKYGNFVRRAPFTPTFTQIQDIIRTSIQGLSG-----NGEVYDKIEIIPVTATF 639
Db 560 IGENLTSTRTFYTDPSNPFSPFRANPDIIGISEQPLFGAGSISGELYIDKIEIILADATF 619
QY 640 EAEYDLERAQAVNALFTNTNRRKTKTDVTDYHIDOVSNLVACLSDEKRELEK 699
Db 620 EAEYDLERAQAVNALFTNTNRRKTKTDVTDYHIDOVSNLVACLSDEKRELEK 679
QY 700 KYAKRLSDERNLLQDPNFTSINKQPDFISTNEQSNFTSIHQSEHGWSGSENIITQEGND 759
Db 680 KHAKRLSDERNLLQDPNFRGINRQPD-----RGWGSTDTITIQGDD 721
QY 760 VKENYVTLPGTFNCPYLYKQKIGESLKAQYQRYGIEDSDQLEIYLIRYNAKHE 819

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Db 722 VFKNYVTLPGTVDECYPTLYQKIDESKLYATRYELRGYIEDSQDLIELIYLRNAKHE 781
QY 820 TLDVPGTESLWPLSVESPIGRGCEPNRCAPHFENWPDLDSCRCGEKCAHSHHFSLDID 879
Db 782 IVNVPGTGLWPLSAQSPIGKCEPNRCAPHEWNPDLDCRCGEKCAHSHHFTLDDID 841
QY 880 VQCTDLHENLGVVWVFKITQDGHARLGNLEFIEBKPLLGALSRVKAERKWRDKREKL 939
Db 842 VQCTDLNEDLGVWVFKITQDGHARLGNLEFIEBKPLLGALSRVKAERKWRDKREKL 901
QY 940 QLETKRVYTEAKAVDALFVDSQYDRQLQADTNIGMHAADKLVRHREAYLSELPVPGV 999
Db 902 QLETNIVYKEAKESVDALFVNSQYDRQLQADTNIGMHAADKLVRHREAYLSELPVPGV 961
QY 1000 NAEIPEELEGGHIIITAIISLYDARNVVGDFNNGLTCTMNVKGVHDV-QQSHRSDLVIPW 1058
Db 962 NAEIPEELEGGRIFTAYSILYDARNVVGDFNNGLTCTMNVKGVHDVVEEQNNHRSVLVIPW 1021
QY 1059 EAEVDSQAVRVCPGCGYILRVYAYKEGYGEGCVTHIEIENNTDELKFKNREEEVYPTDG 1118
Db 1022 EAEVDSQAVRVCPGCGYILRVYAYKEGYGEGCVTHIEIENNTDELKFKNREEEVYPTDG 1081
QY 1119 TCNDVTA---HOGTAGCADACNRSNAGYEDAYEDVDTTASVNYKPTYEEETVTDVRRDNH 1174
Db 1082 TCNNTYGTQEEYEGT-----YTSRNGQYDEAYGNPSPADYASVYEKSYTDGREN 1135
QY 1175 CEYDRGVNYPVPAGYVTKLEYEPETDVTWIEIGETEGKFIVDSVLLMEE 1228
Db 1136 CESNRGXYGDTPLPAGYVTKLEYEPETDVTWIEIGETEGKFIVDSVLLMEE 1189

RESULT 6
US-10-200-522-2
; Sequence 2, Application US/10200522
; Publication No. US20030195336A1
; "GENERAL INFORMATION:
; APPLICANT: Baum, James A.
; APPLICANT: Gilmer, Amy Jelen
; APPLICANT: Mettus, Anne Marie Light
; TITLE OF INVENTION: NUCLEIC ACID AND POLYPEPTIDE COMPOSITIONS ENCODING LEPIDOPTERAN-T
; FILE REFERENCE: MECO:213 (11792.0213 DVUS01)
; CURRENT APPLICATION NUMBER: US/10/200,522
; CURRENT FILING DATE: 2002-07-22
; PRIOR APPLICATION NUMBER: 09/337,280
; PRIOR FILING DATE: 1999-06-22
; PRIOR APPLICATION NUMBER: 08/980,071
; PRIOR FILING DATE: 1997-11-26
; PRIOR APPLICATION NUMBER: 08/757,536
; PRIOR FILING DATE: 1996-11-27
; NUMBER OF SEQ ID NOS: 76
; SOFTWARE: Patent in version 3.1
; SEQ ID NO 2
; LENGTH: 1189
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Recombinant Delta Endotoxin
US-10-200-522-2

Query Match 53.9%; Score 3508.5; DB 12; Length 1189;
Best Local Similarity 58.1%; Pred. No. 7.7e-301;
Matches 729; Conservative 128; Mismatches 296; Indels 101; Gaps 21;

QY 7 NENEII--NAVSNHSAQMDLLPDAIEDSLCIAEGN-NIDPFVSASTVOTGINIAGRILG 63
Db 5 NONQCIPYNCLSN-----PEEVLLDGERISTGNSSID--ISLSLVQ-----FLV 46
QY 64 VLGVPPAGQASFPYSLVGVLPGRGDWEIEFLEHVEQLINQOITENARNTALAPLOGLG 123
Db 47 SNFVPGGFLVGLIDFVWVGIVG---SQWDAFLVQIEQLINRIAFARNAAIANLEGILG 103
QY 124 DSFRAYQQSLEDWLENRDDARTSRVLTQYIALELDFLNAMPLFAIRNQEVELLMVYQA 183

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Db 104 NNFNIVYAEKFEEDDNNPATRVIDRPRILDGLLERDIPSAISGFVPLLSVYQA 163
QY 184 ANLHLLLRDASLFGSEFGLTSQEIQRYYERQVERTRDYSYCVQWNTGLNSLRGINAA 243
Db 164 ANLHLLLRDASLFGSEFGLTSQEIQRYYERQVERTRDYSYCVQWNTGLNSLRGINAA 223
QY 244 SWRYNCFRDLTLGLVDLVALPSPYDTRTPYNTSQAQLTRVYVYDAIGATGVNMAAMW 303
Db 224 DWITYNLRDLTLGLVDLVALPSPYDTRTPYNTSQAQLTRVYVYDAIGATGVNMAAMW 279
QY 304 YNNNAPSFAIEAAIRSPHLLDFLEQLTIFSASSRNSNRHMTYWRGHTIQSRPIQGL 363
Db 280 SVAQLPTFNWESSAIRNPHLFDILNLTIF---TDFSVGRNFMGHRVSSILGCGN 336
QY 364 NTS-THGATNITSNPVTLRFASRDVYTESYAGVLL---WGYLEPIHGVPYTRFNP-T 417
Db 337 ITSPIYGREANQBPSPFTF-NGEVFRTLNPTRLQQPWPAPFPNLRGVGEVFPST 395
QY 418 NPQNISDRGTANYSQPYESPOLQKDSBELPPEPTERRPNVYESYSHRLSHIGIILQSRV 477
Db 396 NSFYRGRGV-----DSLTELPEPDSVPREGYSHRLCHATFV--QRSG 439
QY 478 VP-----VYSWTHRSADRNTNIGPNRITQIPMYKASELPQGTTVVRGPGTGGDILRT 531
Db 440 TPELTGTVFWSWTHRSATLNTIDPERINQIPLVKFPRVWGTSVITGPGTGGDILRRN 499
QY 532 NTGCFGIRVTVNGPLTQRYRIGPRYASTVDFDFVSRGGTTVN-----NFRFLRNM 584
Db 500 TFGDFVSLQVNSPITQRYRLFRYASRRDARVILVITGAASTGVGGQSVNMLPQKIME 559
QY 585 SGDELKYNFVRRAFTPTFTQIIRTSIQGLSG-----NGEVYIDKIEIIPVTATF 639
Db 560 IGENLTSTRTYTDSPNPFSEFRANPDIIIGSEQPLFGAGSISSGELIYDKIEILADATF 619
QY 640 EAEYDLERAQAVNALFTNTNPRELKTVDYHIDQVSNLVACLSDFCLDEKRELEKV 699
Db 620 EAEYDLERAQAVNALFTNTNPRELKTVDYHIDQVSNLVACLSDFCLDEKRELEKV 679
QY 700 KYAKRLSDERNLLQDPNFTSINKQDPFISITNEQSNFTSIHQSEHGWGSENIITQEND 759
Db 680 KXAKRLSDERNLLQDPNFRGINRQPD-----RGMRGSTDTITQGGDD 721
QY 760 VFKNYVTLPGTVDECYPTLYQKIDESKLYATRYELRGYIEDSQDLIELIYLRNAKHE 819
Db 722 VFKNYVTLPGTVDECYPTLYQKIDESKLYATRYELRGYIEDSQDLIELIYLRNAKHE 781
QY 820 TLDVPGTESLWPLSVESPIGRGCEPNRCAPHFENWPDLDSCRCGEKCAHSHHFSLDID 879
Db 782 IVNVPGTGLWPLSAQSPIGKCEPNRCAPHEWNPDLDCRCGEKCAHSHHFTLDDID 841
QY 880 VQCTDLHENLGVVWVFKITQDGHARLGNLEFIEBKPLLGALSRVKAERKWRDKREKL 939
Db 842 VQCTDLNEDLGVWVFKITQDGHARLGNLEFIEBKPLLGALSRVKAERKWRDKREKL 901
QY 940 QLETKRVYTEAKAVDALFVDSQYDRQLQADTNIGMHAADKLVRHREAYLSELPVPGV 999
Db 902 QLETNIVYKEAKESVDALFVNSQYDRQLQADTNIGMHAADKLVRHREAYLSELPVPGV 961
QY 1000 NAEIPEELEGGHIIITAIISLYDARNVVGDFNNGLTCTMNVKGVHDV-QQSHRSDLVIPW 1058
Db 962 NAEIPEELEGGRIFTAYSILYDARNVVGDFNNGLTCTMNVKGVHDVVEEQNNHRSVLVIPW 1021
QY 1059 EAEVDSQAVRVCPGCGYILRVYAYKEGYGEGCVTHIEIENNTDELKFKNREEEVYPTDG 1118
Db 1022 EAEVDSQAVRVCPGCGYILRVYAYKEGYGEGCVTHIEIENNTDELKFKNREEEVYPTDG 1081
QY 1119 TCNDVTA---HOGTAGCADACNRSNAGYEDAYEDVDTTASVNYKPTYEEETVTDVRRDNH 1174
Db 1082 TCNNTYGTQEEYEGT-----YTSRNGQYDEAYGNPSPADYASVYEKSYTDGREN 1135
QY 1175 CEYDRGVNYPVPAGYVTKLEYEPETDVTWIEIGETEGKFIVDSVLLMEE 1228

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Db 1136 CESNRGVDYTPLPAGYVTKDLEYFPETDKVWIEIGETEGTIFVDSVELLMEE 1189

RESULT 7

US-09-873-873-10

; Sequence 10, Application US/09873873

; Patent No. US20020064865A1

; GENERAL INFORMATION:

; APPLICANT: Malvar, Thomas

; TITLE OF INVENTION: Polynucleotide Compositions Encoding Broad-Spectrum S-Endotoxins

; FILE REFERENCE: MSCO:210--2

; CURRENT APPLICATION NUMBER: US/09/873,873

; PRIOR FILING DATE: 2001-08-20

; PRIOR APPLICATION NUMBER: US 09/253,341

; PRIOR FILING DATE: 1999-02-19

; PRIOR APPLICATION NUMBER: US 08/922,505

; PRIOR FILING DATE: 1997-09-03

; PRIOR APPLICATION NUMBER: US 08/754,490

; PRIOR FILING DATE: 1996-11-20

; NUMBER OF SEQ ID NOS: 35

; SOFTWARE: PatentIn version 3.0

; SEQ ID NO 10

; LENGTH: 1177

; TYPE: PRT

; ORGANISM: Artificial Sequence

; FEATURE:

; OTHER INFORMATION: Hybrid Delta-Endotoxin

US-09-873-873-10

Query Match 53.8%; Score 3508; DB 9; Length 1177;

Best Local Similarity 57.9%; Pred. No. 8.4e-301;

Matches 721; Conservative 128; Mismatches 305; Indels 92; Gaps 18;

QY 4 NRKNEI--NAVSNHQAQMDLLDPADIEDSLCIAEGNNIDPPFVSASTVOTGINIAGRI 61

DB 3 NNPNEICIPYCNLSN--PEVEVLGERIE-----TGTPIDISLSL 42

QY 62 LGVL---GVPPAGQALASVFLVGLWLP-RGRDQWEIFLEHVEQLINQOITENARNTALA 117

DB 43 TQFLSEFPVAGAG---FVLGLVDIIMGIFGPSQWDAFLVQIEQLINQRIEFAFNQAIAS 98

QY 118 RLOGIGDSFRAYQOQSLWLENRDDARTSVLHTQYIALELDFLNAPLFAIRQVQVPLL 177

DB 99 RLEGSLNLYQIYAESFRWEADPTNPALREEMRIQFNDMSALTTAIFLFAVQNYQVPLL 158

QY 178 MYQAANLHLLLDASLFGSEGLTSGEIQRYVERQVTRDYSDYCVIEWYNTGLNSL 237

DB 159 SVYVQAANLHSLVLDVSVFGQWGFDAATINSRYNDLTRIGNYTDYAVRWYNTGLERV 218

QY 238 RGTNAASVRYNQFRDLTLGLVDLVALFPSPYDTRTPINTSAQLTRREYVYTDALGATVN 297

DB 219 WGPDSRDVRYNQFRDLTLGLVDLVALFPSPYDTRTPINTSAQLTRREYVYTDALGATVN 270

QY 298 MASWVYNNAPSPSAIEAAIRSHPLDLEQLTIFPSASSRWSNTRMTWRGHTIQSR 357

DB 271 PVLENFDGSGFRGSAQIGIE-RSIRSHPLMDILNSITITTDH-----RGYYWMSGHQIMAS 324

QY 358 PIGGGLNTSTHGAATNTSNPV-----TLRFASRDVYRTES---YAGVLLWGLVLEPIHGV 410

DB 325 PVFGSGPFPPLYGTMGNAAPQQRIVAGLGGVYRTLSSTLYRPPFNIGINNQOLSULD 384

QY 411 TVRFNFTNPQNISDRGTANYSPYSPGLQKDSLETPPETTERPNYESSYHRLSHIGI 470

DB 385 GTEFAYGTSSNLP-----SAVYKSG--TVDSLDEIPQNNVPPRQGSFHLVSHVM 435

QY 471 ILQ-----SRVNVVYVSWTHRSADRTNTIGPNRITQIPMVKASELPQGTVVVRGPGFT 523

DB 436 FRSGFSNSVSTIRAPMFESWTHRSATPTNTIDPERITQIPLVKAHTLQSGTTVVRGPGFT 495

QY 524 GGDILRRNTGCGFPIRTVNGPLTORVIRGFYASTVDFPFVYRSGGTTVNNRFLRTM 583

DB 496 GGDILRRSTGGFPFAYTVINNGQLPQRYRARIRYASTTNLRIYVTVAGERIFAGQFNKTM 555

QY 584 NSGDELKYGKGNFVRRAFTTPTFTTOIQDIIRTSIOGLSGNGEVYIDKIIIPVTATFEAEY 643

DB 556 DTGDPLTFQSFYSYATINTAFTFPMSSQSFYTGADTFSSGNEVYIDREFELIVTATFEAEY 615

QY 644 DLERAQAVNALFTNTNPRRLKTDVTHIDQVNLVACLSDFCLEKREKLEKVKYAK 703

DB 616 DLERAQAVNALFTSIQIGIKTDVTHIDQVNLVACLSDFCLEKREKRELSKVRHAK 675

QY 704 RLSDERNLQDPNFTSINKQPDFISTNEQSNFTSIHQSEHGWMGSENITIQEGNDVPKE 763

DB 676 RLSDERNLQDPNFKGINRQLD-----RGMGSDTITIQRGDDVPKE 717

QY 764 NYVTLPCTFNECYPTLYLQKIGESSELKAYTRYQIRGVIEDSQDLIELYLIRNAKHETLDV 823

DB 718 NYVTLPCTFDECYPTLYLQKIDESKLAFTRYQIRGVIEDSQDLIELYLIRNAKHETVNV 777

QY 824 PGTESLWPLSVESPIGRGEPNRCAPHFNWPDLDSCRDGCEKCAHSHHFLSDIDVGCT 883

DB 778 PGTSGLWPLSAQSPIGKCGEPNRCAPHLEWPDLDSCRDGCEKCAHSHHFLSDIDVGCT 837

QY 884 DLHENLGVVWVFKIKTOEGHARLGNLEFIBEKPLLGALSRVKAEEKWRDKREKLOLET 943

DB 838 DLNEDLGWVWIFIKITODGHARLGNLEFSEKPLVGEALARVKAEEKWRDKREKLSWET 897

QY 944 KRVYTEAKEAVDALFVDSQYDRLOADTNIGMIHAADKLVRHIREAYISELPIVPGVNAEI 1003

DB 898 NIVYKEAKESVDALFVNSQYDQLQADNTNIAHAAKRVHSIREAYISELPIVPGVNAEI 957

QY 1004 FEELEGHITAI SLYDARNVVKGFNNGLTCNVNKGVDV-QQSHHRSDLVIVPEWEAEV 1062

DB 958 FEELEGRIFTAFLYDARNVKNKGFNNGLSCWNVKGVHDVVEQNNQSRSLVVPWEAEV 1017

QY 1063 SQAVRVCPCGGYILRVTAKEYGEGCVTHIEIENNTDELKFKNREBEVYPTDTGTCDN 1122

DB 1018 SQEVRVCPGRGYILRVTAKEYGEGCVTHIEIENNTDELKFKSCVEEIVPNVTTCND 1077

QY 1123 YTAHQGTAGCADCNSRNAGYEDAYEYDVTASVNYKPYESETYTVDRDNHCSYDRGVY 1182

DB 1078 YTVNQEEVG--GAVTSRNRGYNEAPSV----PADYASVYEKSVTDGRRNCPCEFNRCYR 1131

QY 1183 NYPPVPAGYVTKLEYEPTDTTWIETGEGTGFVDSVELLMEE 1228

DB 1132 DYTEPLPGYVTKLEYEPTDKWIEIGETEGTGFVDSVELLMEE 1177

RESULT 8

US-09-873-873-12

; Sequence 12, Application US/09873873

; Patent No. US20020064865A1

; GENERAL INFORMATION:

; APPLICANT: Gilmer, Amy Jelen

; APPLICANT: Malvar, Thomas

; TITLE OF INVENTION: Polynucleotide Compositions Encoding Broad-Spectrum S-Endotoxins

; FILE REFERENCE: MSCO:210--2

; CURRENT APPLICATION NUMBER: US/09/873,873

; CURRENT FILING DATE: 2001-08-20

; PRIOR APPLICATION NUMBER: US 09/253,341

; PRIOR FILING DATE: 1999-02-19

; PRIOR APPLICATION NUMBER: US 08/922,505

; PRIOR FILING DATE: 1997-09-03

; PRIOR APPLICATION NUMBER: US 08/754,490

; PRIOR FILING DATE: 1996-11-20

; NUMBER OF SEQ ID NOS: 35

; SOFTWARE: PatentIn version 3.0

; SEQ ID NO 12

; LENGTH: 1177

; TYPE: PRT

; ORGANISM: Artificial Sequence

; FEATURE:

; OTHER INFORMATION: Hybrid Delta-Endotoxin

US-09-873-873-12





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Db 325 PVGSGPEFTPLVGTGMAAPQORIVAQLGQGVVRLTSLTYRRPFNINQOQLSVLD 384
Qy 411 TVRFNFTNPQISDRGTANYSPYSPGLQKDSSETLPPTTERPNYESYSHRLSHGI 470
Db 385 GTEFAYGTSSNLP-----SAVYRKSG--TVDSLDEIPQNNVPPRQGSFSLSHVSM 435
Qy 471 ILQ-----SRVNPVYSWTHRSADRTNITGPNRITQIPMKASELPQGTTVVRGPGFT 523
Db 436 FRSGFSNSSVSIIRAPMSWTHRSATPTNTIDPERITQIPLVKAHTLQSGTTVVRGPGFT 495
Qy 524 GGDILRRTNTGGFPIRVTVNGPLTQRYRIGFRYASTVDFDFVSRGGTTVNNFRFLRTM 583
Db 496 GGDILRRTSGGPFAYTVINGQLPQYRARIYASTTNLRIRYTVVAGERIPACQFNKTM 555
Qy 584 NSGDELKGNFVRRAFTPTFTQIDIRTSIQGLSGNGEVYIDKIEIIPVTATFEAY 643
Db 556 DTGDLPTFQSFYATINTAFTFPMSSQSFVTGADTFSSGNEVYIDRFELIIPVTATFEAY 615
Qy 644 DLERAEAVNALFTNTNPRRLKTDVTDYHIDQVSNLVACLSDFCLEKRELLKVKYAK 703
Db 616 DLERAEAVNALFTSINOIGIKTDVTDYHIDQVSNLVACLSDFCLEKRELLKVKYAK 675
Qy 704 RLSDERNLLQDPNFTSINKQPDFISTNEQSNFTSIHQSEHGWGSENIITQEGNDVFK 763
Db 676 RLSDERNLLQDPNFKGNRLD-----RGWRGSTDTIITQRGDDVFK 717
Qy 764 NYVTLPCTFNECPTYLYQKIGESLKYTRYQLRGYIEDSDLEIYLIRYNAKHETLDV 823
Db 718 NYVTLPCTFDECYPTLYQKIDSKLAKAFTRYQLRGYIEDSDLEIYLIRYNAKHETVNV 777
Qy 824 PGTESLWPLSVESPIGRGCEPNRCAPHFEMWPDLDSCRDGCEKCAHSHHFLSDIDVCT 883
Db 778 PGTGLWPLSQSPIGKCEPNRCAPHLEWPDLDSCRDGCEKCAHSHHFLSDIDVCT 837
Qy 884 DLHENLGVVWFKITQBGHARLGNLEIEBKPLIGEALSRVKRAEKKWRDKREKLOLET 943
Db 838 DLNEDLGVVWFKITQBGHARLGNLEIEBKPLIGEALSRVKRAEKKWRDKREKLEWET 897
Qy 944 KRVTYEAKEADVLDVSDYDRQLQADTNIGMIHAADKLVRIRREAYLSELVPIPGVNAEI 1003
Db 898 NIVYKEAKESVDALFVNSQYDQLQADTNIAIHAADKRVHSIREAYLPELSVPIGVNAEI 957
Qy 1004 FEELGHIITALSIDARNVKNQDFNGLTCWNVKGVHV--QOSHRSRLVPISEWEAEV 1062
Db 958 FEELGRIPTAFSLYDARNVKNQDFNGLSCWNVKGVHVDEEQNNQSVLWPEWEAEV 1017
Qy 1063 SOAVRVCPCGCVILRVAYKEGYGCGVYTHIENNTDELKPKNREBEVYPTDTGTCND 1122
Db 1018 SOEVRVCPCGCVILRVAYKEGYGCGVYTHIENNTDELKPKNREBEVYPTDTGTCND 1077
Qy 1123 YTAHQGTAGCADAACNSRAGYEDAYEDVTTASVNYKPYTEBETVTVDRDNHCEYDRGYV 1182
Db 1078 YTVNQEYGV--GAYTSRNGYNEAPSV---PADYASVYEKSYTDGRENPCFENRGYR 1131
Qy 1183 NYPPVACGVTKLEYEFPETDVTWIEIGETGKFTVDSVELLME 1228
Db 1132 DYTPLVGVYTKLEYEFPETDVTWIEIGETGKFTVDSVELLME 1177

```

RESULT 10

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US-09-997-914-10
; Sequence 10, Application US/09997914
; Publication No. US20030119158A1
; GENERAL INFORMATION:
; APPLICANT: Malvar, Thomas
; APPLICANT: Gilmer, Amy Jelen
; TITLE OF INVENTION: Polynucleotide Compositions Encoding Broad Spectrum d-Endotoxins
; FILE REFERENCE: 11792.0215.DVUS01 MECO:215--1
; CURRENT APPLICATION NUMBER: US/09/997,914
; CURRENT FILING DATE: 2001-11-30
; PRIOR APPLICATION NUMBER: US 09/261,040
; PRIOR FILING DATE: 1999-03-02
; PRIOR APPLICATION NUMBER: US 08/754,490

```

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; PRIOR FILING DATE: 1996-11-20
; NUMBER OF SEQ ID NOS: 30
; SOFTWARE: Patent in version 3.0
; SEQ ID NO 10
; LENGTH: 1177
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Hybrid Delta-Endotoxin
US-09-997-914-10

Query Match      53.8%; Score 3508; DB 11; Length 1177;
Best Local Similarity 57.9%; Pred. No. 8.4e-301;
Matches 721; Conservative 128; Mismatches 305; Indels 92; Gaps 18;

Qy 4 NKRNEHII--NAVSNHSAQMDLDPADRIEDSLCIAEGNNIDPFVSASTVGTGINIAGRI 61
Db 3 NNPINCEIPYCNLSN--PEVEVLGGERIE-----TGYPIDISLSL 42

Qy 62 LGVL---GVPPAGQLASFYSFLVGLWLP-RGRDQWEIPLFHVQQLINQIITENARNTALA 117
Db 43 TQFLLSBFVPGAG---FVLGLVDIIMGIFGFSQWDAFLVQIQIQLINQIRIEFARNQAIS 98

Qy 118 RLOGLGDSFRAYQOSLEDWLENRRDARTSRVLHTQYIALELDFLNAMPLFAIRNOEVPLL 177
Db 99 RLEGSLNLYQIYAESFREWEADPTNPALREEMRIQFNDMSALTTAIPFAVQNYQVPL 158

Qy 178 MVYAQAANLHLLLRDASLFGSEFGLTSQETQRYRYERQVTRDYSYCVWEYNTGLNSL 237
Db 159 SVYVQAANLHLSVLRDVSFGQWGFDAATINSRYNDLTRIGNYTDYAVRWYNTGLERV 218

Qy 238 RGTNAASWRYNQPRDLTLGLVLDVALFSDYTRTPINTSAQLTRREYTDATGATGVN 297
Db 219 WGPDSRDWRYNQPRRLTLTLVDIVALFNYDSRRYPVRTVSQLTREIYT-----N 270

Qy 298 MASNNWNNAPSAIEAAAIRSPHLLDEQLTIFASASRWNTRHMTWRGHTIOSR 357
Db 271 PVLENFPGSFRGSAQIGIE-RSIRSPLMDILNSITIYTDH-----RGYYWSGHQINAS 324

Qy 358 PIGGLTSTHGTANTINPV---TLRFASRDVYRTES---YAGVLLWGLYLPPIHGV 410
Db 325 PVGSGPEFTPLVGTGMAAPQORIVAQLGQGVVRLTSLTYRRPFNINQOQLSVLD 384

Qy 411 TVRFNFTNPQISDRGTANYSPYSPGLQKDSSETLPPTTERPNYESYSHRLSHGI 470
Db 385 GTEFAYGTSSNLP-----SAVYRKSG--TVDSLDEIPQNNVPPRQGSFSLSHVSM 435

Qy 471 ILQ-----SRVNPVYSWTHRSADRTNITGPNRITQIPMKASELPQGTTVVRGPGFT 523
Db 436 FRSGFSNSSVSIIRAPMSWTHRSATPTNTIDPERITQIPLVKAHTLQSGTTVVRGPGFT 495

Qy 524 GGDILRRTNTGGFPIRVTVNGPLTQRYRIGFRYASTVDFDFVSRGGTTVNNFRFLRTM 583
Db 496 GGDILRRTSGGPFAYTVINGQLPQYRARIYASTTNLRIRYTVVAGERIPACQFNKTM 555

Qy 584 NSGDELKGNFVRRAFTPTFTQIDIRTSIQGLSGNGEVYIDKIEIIPVTATFEAY 643
Db 556 DTGDLPTFQSFYATINTAFTFPMSSQSFVTGADTFSSGNEVYIDRFELIIPVTATFEAY 615

Qy 644 DLERAEAVNALFTNTNPRRLKTDVTDYHIDQVSNLVACLSDFCLEKRELLKVKYAK 703
Db 616 DLERAEAVNALFTSINOIGIKTDVTDYHIDQVSNLVACLSDFCLEKRELLKVKYAK 675

Qy 704 RLSDERNLLQDPNFTSINKQPDFISTNEQSNFTSIHQSEHGWGSENIITQEGNDVFK 763
Db 676 RLSDERNLLQDPNFKGNRLD-----RGWRGSTDTIITQRGDDVFK 717

Qy 764 NYVTLPCTFNECPTYLYQKIGESLKYTRYQLRGYIEDSDLEIYLIRYNAKHETLDV 823
Db 718 NYVTLPCTFDECYPTLYQKIDSKLAKAFTRYQLRGYIEDSDLEIYLIRYNAKHETVNV 777

Qy 824 PGTESLWPLSVESPIGRGCEPNRCAPHFEMWPDLDSCRDGCEKCAHSHHFLSDIDVCT 883

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Db 778 PGTGSLWPLSAQSPKCGKGNRCAPHLEWNPDLDCSCDGEKCAHSHHFLSDIDVGCT 837
Qy 884 DLHENLGVVWVFKITQEGHARLGNLEFIEKPLLGEALSRVKAERKWRDKREKLOLET 943
Db 838 DLNEDLGVVWVFKITQDGHARLGNLEFLEBKPLVGEALARVKAERKWRDKREKLEWET 897
Qy 944 KRVTYEAKEAVDALFVDSQYDRLOADTNIAMIHAADKLVRHREAYLSELVPIGVNAEI 1003
Db 898 NIVYKEAKESVDALFVNSQYDQLOADTNIAMIHAADKRVHSREAYLPELSVPIGVNAAI 957
Qy 1004 FEELEGHITAIISLYDARNVKNNGFNGLTCWNVKGHDV-QQSHHRSDDLVIPEWEAEV 1062
Db 958 FEELEGRIFTAFSLYDARNVKNNGFNGLSCWNVKGHDVEEQNNQSVLVPWEAEV 1017
Qy 1063 SQAVRCPGCGYILRVTAKEGYGEGCVTHIEINNTDELKFKREBEVPTGTGCTND 1122
Db 1018 SQEVRVCPGRCGYILRVTAKEGYGEGCVTHIEINNTDELKFKSVCBEIYPNNVTCTND 1077
Qy 1123 YTAHQGTAGCADCACNSNAGYEDAYEVDTTASVNYKPYEBEYTDVVRDNHCEYDRGVY 1182
Db 1078 YTVNQEEYGV--GAYTSRRNGYNEAPSV---PADYASVYEEKSYTDGRRNCPCEFRGVR 1131
Qy 1183 NYVPVAGYVTKLEYFPETDVTWIEIGETGKFFIVDSVELLME 1228
Db 1132 DYTPLPVGYVTKLEYFPETDKVWIEIGETGTFIVDSVELLME 1177

RESULT 11
US-09-997-914-12
; Sequence 12, Application US/09997914
; Publication No. US20030119158A1
; GENERAL INFORMATION:
; APPLICANT: Gilmer, Amy Jelen
; APPLICANT: Malvar, Thomas
; TITLE OF INVENTION: Polynucleotide Compositions Encoding Broad Spectrum d-Endotoxins
; * FILE REFERENCE: 11792.0215.DVUS01 MECO:215--1
; CURRENT APPLICATION NUMBER: US/09/997,914
; CURRENT FILING DATE: 2001-11-30
; PRIOR APPLICATION NUMBER: US 09/261,040
; PRIOR FILING DATE: 1998-03-02
; PRIOR APPLICATION NUMBER: US 08/754,490
; PRIOR FILING DATE: 1996-11-20
; NUMBER OF SEQ ID NOS: 30
; SOFTWARE: Patent in version 3.0
; SEQ ID NO 12
; LENGTH: 1177
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Hybrid Delta-Endotoxin
US-09-997-914-12

Query Match 53.8%; Score 3508; DB 11; Length 1177;
Best Local Similarity 57.9%; Pred. No. 8.4e-301;
Matches 721; Conservative 128; Mismatches 305; Indels 92; Gaps 18;

Qy 4 NRKNEEII--NAVSNHSAQMDLLPDAIEDSLICAEAGNIDPFVSASTVQGINAGRI 61
Db 3 NNPINECIPYNCLSN--PEVEVLGGERIE-----TGYTPIDISLSL 42
Qy 62 LGVL---GVFPAGQLASFYSFLVGLWLP--RGRDOMEIFLEHVEQLINQIITENARNTALA 117
Db 43 TQPLLSEFVPGAG---FVLGLVDLIINGIFGFSQMDAFLVQIEQLINQRIEFARNQAI 98
Qy 118 RLOGGDSFRVQOQSLIEDWLENRDDARTSVLHTQVIALEFLNMPFLPATRNOEVL 177
Db 99 RLEGLSNLYQIAESFREWEADPTNPALREEMRIQFNDMNSALTTPAIPFAVQNYQVPLL 158
Qy 178 MYVQAANLHLLLRDASLFGSEFGLTSQEIQRYYERQVTRDYSDCYEVWNTGLNSL 237
Db 159 SVTVQAANLHLSVLRDVSFGQWGFDAATINSRYNDLTRLGNITYDYAVRWNTGLERV 218
Qy 238 RGTNAASWVRYNQFRDLTLGLVDLVALFPFSDYTRTPINTSAQLTRVYTDATGATGVN 297
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RESULT 12  
US-09-997-914-14  
; Sequence 14, Application US/09997914  
; Publication No. US20030119158A1  
; GENERAL INFORMATION:

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Db 219 WGPDSRDWVRYNQFRRELTLTVLDIVALFPNYSRRYPVRTVSQLTREIYT-----N 270
Qy 298 MASWNNWNNAPSAFSAIEAARSPHLLDLEOLTTFSSASSRWSNTHMTYWRGHTIQSR 357
Db 271 PVLENFPGSRGSAQAGIE-RSIRSPHLMIDLNSITITDAH-----RGYYWSGHQIMAS 324
Qy 358 PIGGLLNTSHGATNTSINPV---TLRFASRDYVRITES---YAGVLLWGIYLEPIHGVP 410
Db 325 PVGFSGPEFTPLPYGTMGNAAPQORIVAQLGQGYVRTLSLTLYRRPNININQQLSVLD 384
Qy 411 TVRPNFTNPONI SDRGTANYSPQYESGLQKQSETELPPETTERPNYESYSHRLSHIGI 470
Db 385 GTEFAYGTSNLP-----SAVYRKSG--TVDSLDEIPQNNVPPROGFSHRLSHVSM 435
Qy 471 ILQ-----SRVNVVYSWTHRSADRTNIGRNIITQIPMKASELPQGTTVVRGPGFT 523
Db 436 FRSGFSNSVSIIRAPMFSWTHRSATNTIDPERITQIPLVKAHTLOSGTTTVVRGPGFT 495
Qy 524 GGDILRRTNTGGFPIRVTVNGPLTQRYRIGFRYASTVDFDFVSRGGTTVNNFRFLRTM 583
Db 496 GGDILRRTSGPPAYTIVNINGQLPQRYARIRYASTTNLRIYVTVAGERIFACQFNKTM 555
Qy 584 NSGDELKYNFVRRAFTPTPTQIQDIIRTSQGLSGNCEVYIDKIEIIPVTATPAEY 643
Db 556 DTGDLPTFQSFVSATINTAFTFPMSSQSFTVGADTFSSGNEVYIDREFIIPVTATPAEY 615
Qy 644 DLERAQEAVALFTNTNPRRLKTDVTDYHIDQVSNLVACLSDEFCLDEKRELLKVKYAK 703
Db 616 DLERAQKAVNALFTSINQIGIKTDVTDYHIDQVSNLVDCLSDEFCLDEKRELLKVKYAK 675
Qy 704 RLSDERNLLODPNFTSINKQPDFISTNEQSNFTSIHEQSEHGMMWGSNITIQEGNDVPKE 763
Db 676 RLSDERNLLODPNFKGNRQLD-----RGWRGSTDITIQRGDDVPKE 717
Qy 764 NYVTLPGTFCNECYTYLYQKIGESLKAAYTRYQLRGVIEDSODLEIYLIRNAKHEILDV 823
Db 718 NYVTLPGTFCNECYTYLYQKIGESLKAAYTRYQLRGVIEDSODLEIYLIRNAKHEIVNV 777
Qy 824 PGTESLWPLSVESPIGRCGENRCAPHFENWPDLDSCDGEKCAHSHHFLSDIDVGCT 883
Db 778 PGTGSLWPLSAQSPKCGKGNRCAPHLEWNPDLDCSCDGEKCAHSHHFLSDIDVGCT 837
Qy 884 DLHENLGVVWVFKITQEGHARLGNLEFIEKPLLGEALSRVKAERKWRDKREKLOLET 943
Db 838 DLNEDLGVVWVFKITQDGHARLGNLEFLEBKPLVGEALARVKAERKWRDKREKLEWET 897
Qy 944 KRVTYEAKEAVDALFVDSQYDRLOADTNIAMIHAADKLVRHREAYLSELVPIGVNAEI 1003
Db 898 NIVYKEAKESVDALFVNSQYDQLOADTNIAMIHAADKRVHSREAYLPELSVPIGVNAAI 957
Qy 1004 FEELEGHITAIISLYDARNVKNNGFNGLTCWNVKGHDV-QQSHHRSDDLVIPEWEAEV 1062
Db 958 FEELEGRIFTAFSLYDARNVKNNGFNGLSCWNVKGHDVEEQNNQSVLVPWEAEV 1017
Qy 1063 SQAVRCPGCGYILRVTAKEGYGEGCVTHIEINNTDELKFKREBEVPTGTGCTND 1122
Db 1018 SQEVRVCPGRCGYILRVTAKEGYGEGCVTHIEINNTDELKFKSVCBEIYPNNVTCTND 1077
Qy 1123 YTAHQGTAGCADCACNSNAGYEDAYEVDTTASVNYKPYEBEYTDVVRDNHCEYDRGVY 1182
Db 1078 YTVNQEEYGV--GAYTSRRNGYNEAPSV---PADYASVYEEKSYTDGRRNCPCEFRGVR 1131
Qy 1183 NYVPVAGYVTKLEYFPETDVTWIEIGETGKFFIVDSVELLME 1228
Db 1132 DYTPLPVGYVTKLEYFPETDKVWIEIGETGTFIVDSVELLME 1177
```

```

; APPLICANT: Malvar, Thomas
; APPLICANT: Gilmer, Amy Jelen
; TITLE OF INVENTION: Polynucleotide Compositions Encoding Broad Spectrum d-Endotoxins
; FILE REFERENCE: 11792.0215.DVUS01 MECO:215--1
; CURRENT APPLICATION NUMBER: US/09/997,914
; CURRENT FILING DATE: 2001-11-30
; PRIOR APPLICATION NUMBER: US 09/261,040
; PRIOR FILING DATE: 1999-03-02
; PRIOR APPLICATION NUMBER: US 08/754,490
; PRIOR FILING DATE: 1996-11-20
; NUMBER OF SEQ ID NOS: 30
; SOFTWARE: PatentIn version 3.0
; SEQ ID NO 14
; LENGTH: 1177
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Hybrid Delta-Endotoxin
US-09-997-914-14

Query Match 53.8%; Score 3508; DB 11; Length 1177;
Best Local Similarity 57.9%; Pred. No. 8.4e-301;
Matches 721; Conservative 128; Mismatches 305; Indels 92; Gaps 18;

Qy 4 NRKNEEII--NAVSNHSAQMDLLDPDARIEDSLCIAEGNNIDPFVSASTVGTGNIAGRI 61
Db 3 NNPINEICPNCLSN--PEVEVLGGERIE-----TGYPIDISLSL 42

Qy 62 LGVL---GVPPAGQLASFSYFLVGLWLP--RGDRDWEIPELHVEQILNQIITENARNATALA 117
Db 43 TQFLLSFVPVAG---FVLGLVDIIMGIFGPSQMDAFLVQIEQLINQRIEFPARNQAIS 98

Qy 118 RLOGGDSFRAYQOSLEWLNDRDARTSRVHLQYIALEIDFNAMPLFAIRNOEVPLL 177
Db 99 RLEGLSNLYQIYAESFREWEADPTNPALREEMRIQFNDMSALITAIPLFAVQNYQVPLL 158

Qy 178 MYQAQANLHLLRLDASLGESEGLTSQETQRYVERQVTRDYSDYCVEMWYNTGNSL 237
Db 159 SVYQAANLHLSVLKDSVFGQRMGFDATNSRINDLTRIGNYTDYAVRWYNTGLERV 218

Qy 238 RGTNAASWVRYNQFRDLTLGLDILVALFPYSDYTRTYPINTSAQLTREVVYDAIGATGVN 297
Db 219 WGPDSRDWVRYNQFRDLTLGLDILVALFPYSDYTRTYPINTSAQLTREVVYDAIGATGVN 270

Qy 298 MASMNWYNNAPSAIEAARSHPLDLFLEQTIFSASSRWNSRHTMYRGHTIQSR 357
Db 271 PVLENFDCGFRGSAQIE-RSIRSPHLMILNSITITVDAR-----RGYYWWSGHQIMAS 324

Qy 358 PIGGLNTSTHGATNTSINPV-----TLRFASRDVYRTES-----YAGVLLWGIYLEPIHGPV 410
Db 325 PVGFGSGPEFTPLVGTGMAAPQQRIVAQLQGQGVYRTLSSTLYRRPFNIGNNQOLSVID 384

Qy 411 TVRFNFTNPQISDRGTANYOPYESPGLQKDSLETLPPTTERPNYESYSHRLSHGI 470
Db 385 GTEFAYGTSSNLP-----SAVRKSG--TVDSLDELPPQNNVPPRQGSFHRLSHVSVM 435

Qy 471 ILQ-----SRVNVVYSWTHRSADRNTIGPNRITQIPMVKASLFPQGTTVVRGPGFT 523
Db 436 FRSGFSNSSVSIIRAPMFSWTHRSATPTNTIDPERITQIPLVKAHTLQSGTTVVRGPGFT 495

Qy 524 GGDILRRNTGGFPIRTVNGPLTQRYRIGFRVASTVDFPFVSRGTTVNNFRPLRTM 583
Db 496 GGDILRRNTGGFPIRTVNGPLTQRYRIGFRVASTVDFPFVSRGTTVNNFRPLRTM 555

Qy 584 NSGDELKGNFVRRAFTPTFTQDIIRTSIQGLSGNGEVIIDKTEIIPVTATEAEY 643
Db 556 DTGDLPTFQSYATINTAFTIPMSQSSFTVGADTFSSGNEVYIDRFELIIPVTATEAEY 615

Qy 644 DLERAEAVNALFTNPNRLKTDVTDYHIDQVNLVACLSDSEFCLEKRELLKRYAK 703
Db 616 DLERAEAVNALFTNPNRLKTDVTDYHIDQVNLVACLSDSEFCLEKRELLKRYAK 675

Qy 704 RLSDERNLLQPNFTSINKQPDFISTNRQSNFTSIHQSEHGWGSENIITIQEGNDVFPKE 763

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Db 676 RLSDERNLLQPNFKGNRQD-----RGWGSTDTITLQRGDDVPKE 717
Qy 764 NYVTLPCTFNECPTYLYQIGESLQKAYTRYQLRGYIEDSQDLEIYLIRYNKHEITLDV 823
Db 718 NYVTLPCTFNECPTYLYQIGESLQKAYTRYQLRGYIEDSQDLEIYLIRYNKHEITLDV 777
Qy 824 PGTESLWPLSVESPIGRGEPNRCAPHFENWPDJDCSCROGEKCAHSHHFSLDIDVGCT 883
Db 778 PGTESLWPLSAQSPIGRCFENRCAPHLEWNPJDCSCROGEKCAHSHHFSLDIDVGCT 837
Qy 884 DLHENLGVWVFKIKTQEGHARLGNLEFIEBKPLLGALSRVRAEKKWRDKREKLOLET 943
Db 838 DLNEDLGVWVFKIKTQEGHARLGNLEFIEBKPLLGALSRVRAEKKWRDKREKLEWET 897
Qy 944 KRVTYEAKEAVDALFVDSQYDRLOADTNIGMIHAADKLVRHIREAYLSLSELPVIFGVNAEI 1003
Db 898 NIVYKEAKESVDALFVNSQYDQLQADTNIAHIAADKRVHSIREAYLPESLVPFVNAAI 957
Qy 1004 FEELEGHIIITAIISLYDARNVKNQDFNNGLTCTMNVKGVHDV--QOSSHRSDDLVIPEWEAEV 1062
Db 958 FEELEGRIFTAFSLYDARNVKNQDFNNGLTCTMNVKGVHDV--QOSSHRSDDLVIPEWEAEV 1017
Qy 1063 SOAVRVCPGCGYILRVTAAYKEGYGEGCVTIEIENNTDELKFKNREBEVYPTDTGTCD 1122
Db 1018 SOAVRVCPGCGYILRVTAAYKEGYGEGCVTIEIENNTDELKFKNREBEVYPTDTGTCD 1077
Qy 1123 YTAHQGTAGCADACNSNAGYDAYEYDVTASVNVKPYTBEETVTVRRDNHCEYDRGVY 1182
Db 1078 YTVNQEEVG--GAYTSNRNGVNEAPSV---PADYASVYEKSYTDGRRENPCFENRGYR 1131
Qy 1183 NYPPVPAGYVTKLEYPPETDTVMWIEIGETGKPIVDSVELLLMEE 1228
Db 1132 DYTPLPVGYYTKLEYPPETDKVWIEIGETGTEGTFIVDSVELLLMEE 1177

RESULT 13
US-10-365-645-10
; Sequence 10, Application US/10365645
; Publication No. US20030182682A1
; GENERAL INFORMATION:
; APPLICANT: Malvar, Thomas
; APPLICANT: Gilmer, Amy Jelen
; TITLE OF INVENTION: Antibodies Immunologically Reactive with Broad-Spectrum
; TITLE OF INVENTION: Delta-Endotoxins (Amended)
; FILE REFERENCE: 11792.0210.DVUS02 (MECO:210--3)
; CURRENT APPLICATION NUMBER: US/10/365,645
; CURRENT FILING DATE: 2003-02-12
; PRIOR APPLICATION NUMBER: US 09/873,873
; PRIOR FILING DATE: 2001-06-04
; PRIOR APPLICATION NUMBER: US 09/253,341
; PRIOR FILING DATE: 1999-02-19
; PRIOR APPLICATION NUMBER: US 08/922,505
; PRIOR FILING DATE: 1997-09-03
; PRIOR APPLICATION NUMBER: US 08/754,490
; NUMBER OF SEQ ID NOS: 35
; SOFTWARE: PatentIn version 3.2
; SEQ ID NO 10
; LENGTH: 1177
; TYPE: PRT
; ORGANISM: Artificial
; FEATURE:
; OTHER INFORMATION: Hybrid Delta-Endotoxin
US-10-365-645-10

Query Match 53.8%; Score 3508; DB 12; Length 1177;
Best Local Similarity 57.9%; Pred. No. 8.4e-301;
Matches 721; Conservative 128; Mismatches 305; Indels 92; Gaps 18;

Qy 4 NRKNEEII--NAVSNHSAQMDLLDPDARIEDSLCIAEGNNIDPFVSASTVGTGNIAGRI 61
Db 3 NNPINEICPNCLSN--PEVEVLGGERIE-----TGYPIDISLSL 42

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Qy 62 LGVL---GVPPAGQLASFYSLVGLWLP-RGRDOWEIFLEHVEQLINQOITENARNTALA 117  
Db 43 TQFLSEFVPGAG-----FVLGLVDIIMGIFGPSQWDAFLVQIEQLINQRIEFPARNQAIS 98  
Qy 118 RLQGLGDSFRAYQOQSLDLEWLNDRDARTSRVLHTQYIALELDFLNAMPLFAIRNQEVPLL 177  
Db 99 RLEGSLNLYQIYAESFREWEADPTNPALREEMRIQFNDMNSALITTAIFLFAVQNVQVPLL 158  
Qy 178 MYVQAANLHLLLRDASLFGSEFGLTSQETQRYERQVTRDYSDVCVWYNTGLNSL 237  
Db 159 SVYVQAANLHLSVLSDVSVFQQRWGFDAATINSRYNDLTRIGNYTDYAVRWYNTGLERV 218  
Qy 238 RGTNAASVWRVYNQFRDLTLGLVDLVALPPSYDTRTYPINTSAQLTRVYTYDAIGATGVN 297  
Db 219 WGPDSRDVWRVYNQFRDLTLGLVDLVALFPYDSTRYPIRTVSQLTREIYT-----N 270  
Qy 298 MASMNWYNNNAPSFAIAAAIRSPHLLDFLEQLTIFSSASRWSNTRHMTYWRGHTIQSR 357  
Db 271 PVLENFDCGSRGSAQIGIE-RSIRSPHLLMDILNSITIYTDH-----RGYYWSGHQIMAS 324  
Qy 358 PIGGLINTSTHGAATNTSNPV-----TLRFASRDVYRTES---YAGVLLWGIYLPFHGVP 410  
Db 325 PVFGSGPEFTPLYGTMGNAAPQQRIVAQOGGVYRTLSLTYRRPFNIGNQOQLSVLD 384  
Qy 411 TVRFNFTNPQINSDRGATANYSQPYESPGQLQKDSSETLPPETTERPNYESYSHRLSHIGI 470  
Db 385 GTEFAYGTSSNLP-----SAVYRKSG--TVDSLDEIPQNNVPPQGFSLHLSVSM 435  
Qy 471 ILQ-----SRVNVVSVWTHRSADRTNTIGPNRITQIPMYKASELPQGTTVVRGPFT 523  
Db 436 PRSGFSNSSVSIIRAPMFSWTHRSATPTNTIDPERITQIPLVKAHTLQSGTTVVRGPFT 495  
Qy 524 GGDILLRNTGFGPIRVTVNGPLQRYRIGFRYASTVDFDFVSRGGTTVNNRPFPLTM 583  
Db 496 GGDILLRNTGSGPFAVTIVNINQPLQRYRIRASTTNLRYYTVVAGERIPAGFNKTM 555  
Qy 584 NSGDELKYNFVRRAFTPTFTQIQDIIRTSIQGLSGNGEVYIDKIEIIPVATFEEAY 643  
Db 556 DTGDPDLTFOSFYATINTAFTFPMQSSFTVCADTFSSGNEVYIDRFELIPVATFEEAY 615  
Qy 644 DLERAQEAVALFTNTNPRRLKTDVTDYHIDQVSNLVACLSDEFCLDEKRELLEKVKYAK 703  
Db 616 DLERAQKAVNALFTSINQIGIKTDVTDYHIDQVSNLVACLSDEFCLDEKRELSEKVKHAK 675  
Qy 704 RLSDERNLLODNFTSINKQPDFISNQEOSNFTSIHQSEHGWGSENIITQOEGNDVFKE 763  
Db 676 RLSDERNLLODNFNKGINRQLO-----RGWRGSTDITIQRGDDVFKE 717  
Qy 764 NYVTLPGTNECPTYLYQKIGESLKYATRYQLRGYIEDSDQLEIYLIRYNKAKHETLDV 823  
Db 718 NYVTLPGTDECYPTYLYQKIDESKLKATRYQLRGYIEDSDQLEIYLIRYNKAKHETVNV 777  
Qy 824 PGTESLWPLSVSPIGRCGEPNRCAPHFBNWPDLDCCSRDGKCAHSHHPSLDIDVGCT 883  
Db 778 PGTGLWPLSAOSPIKGCGEPNRCAPHLEWNPDLDCSRDGKCAHSHHPSLDIDVGCT 837  
Qy 884 DLHENLGVWVFKIKTQEGHARLGNLEFTEEPKLGALSLRVKRAEKKWRDKREKLOLET 943  
Db 838 DLNEDLGVWVFIKTKQDGHARLGNLEFTEEPKLGALSLRVKRAEKKWRDKREKLEWET 897  
Qy 944 KRYVTEAKBAVDALFVDSQVDRLOADTNIGMHAADKLVRHIREAYLSLPLVPGVNAI 1003  
Db 898 NIVYKEAKESVDALFVNSQYDQLQADTNIAMHAADKRVHIREAYLPELSVPGVNAI 957  
Qy 1004 FEELEGHITATLSYDARNVKNKGNDFNGLTCWNVKGHVDV--QOSHRSOLVPIPEWAEV 1062  
Db 958 FEELEGRIETAFSLYDARNVKNKGNDFNGLSCWNVKGHVDVBEQNNQORSVLVPEWAEV 1017  
Qy 1063 SQAVRCPGCGYTLRYTAYKEGEGCVTHETENNNTDELKFNKREBEVYPTDGTQND 1122  
Db 1018 SQEVRCPGCGYTLRYTAYKEGEGCVTHETENNNTDELKFNKREBEVYPTDGTQND 1077

Qy 1123 YTAHQGTAGCADACNRRNAGYEDAYEDVTTASVNYKPTVEEETTYTVDVRDNHCEYDRGYV 1182  
Db 1078 YTVNQBEYG--GAYTSRNGYNEAPSV---PADYASVYEEKSYTDGRRENPCFNRGRY 1131  
Qy 1183 NYPPVAGYVTKLEYPPEPDTTWIIGETEGKFIVDSVELLIMEE 1228  
Db 1132 DYTPLPGVYVTKLEYPPEPDTKWIIBIGETEGTFIVDSVELLIMEE 1177  
RESULT 14  
US-10-365-645-12  
; Sequence 12, Application US/10365645  
; Publication No. US20030182682A1  
; GENERAL INFORMATION:  
; APPLICANT: Gilmer, Amy Jelen  
; TITLE OF INVENTION: Antibodies Immunologically Reactive with Broad-Spectrum  
; TITLE OF INVENTION: Delta-Endotoxins (Amended)  
; FILE REFERENCE: 11792.0210.DVUS02 (MECO:210--3)  
; CURRENT APPLICATION NUMBER: US/10/365,645  
; CURRENT FILING DATE: 2003-02-12  
; PRIOR APPLICATION NUMBER: US 09/873,873  
; PRIOR FILING DATE: 2001-06-04  
; PRIOR APPLICATION NUMBER: US 09/253,341  
; PRIOR FILING DATE: 1999-02-19  
; PRIOR APPLICATION NUMBER: US 08/922,505  
; PRIOR FILING DATE: 1997-09-03  
; PRIOR APPLICATION NUMBER: US 08/754,490  
; PRIOR FILING DATE: 1996-11-20  
; NUMBER OF SEQ ID NOS: 35  
; SOFTWARE: Patent in version 3.2  
; SEQ ID NO 12  
; LENGTH: 1177  
; TYPE: PRT  
; ORGANISM: Artificial  
; FEATURE:  
; OTHER INFORMATION: Hybrid Delta-Endotoxin  
US-10-365-645-12  
Query Match 53.8%; Score 3508; DB 12; Length 1177;  
Best Local Similarity 57.9%; Pred. No. 8.4e-301;  
Matches 721; Conservative 128; Mismatches 305; Indels 92; Gaps 18;  
Qy 4 NRKNENEII--NAVSNHSAQMDLLPDARIEDSLCIAEGNNIDPFVSASTVQTGNIAGRI 61  
Db 3 NNPINECIPYCNLSN--PEVEVLGGERIE-----TGYPIDISLSL 42  
Qy 62 LGVL---GVPPAGQLASFYSLVGLWLP-RGRDOWEIFLEHVEQLINQOITENARNTALA 117  
Db 43 TQFLSEFVPGAG-----FVLGLVDIIMGIFGPSQWDAFLVQIEQLINQRIEFPARNQAIS 98  
Qy 118 RLQGLGDSFRAYQOQSLDLEWLNDRDARTSRVLHTQYIALELDFLNAMPLFAIRNQEVPLL 177  
Db 99 RLEGSLNLYQIYAESFREWEADPTNPALREEMRIQFNDMNSALITTAIFLFAVQNVQVPLL 158  
Qy 178 MYVQAANLHLLLRDASLFGSEFGLTSQETQRYERQVTRDYSDVCVWYNTGLNSL 237  
Db 159 SVYVQAANLHLSVLSDVSVFQQRWGFDAATINSRYNDLTRIGNYTDYAVRWYNTGLERV 218  
Qy 238 RGTNAASVWRVYNQFRDLTLGLVDLVALPPSYDTRTYPINTSAQLTRVYTYDAIGATGVN 297  
Db 219 WGPDSRDVWRVYNQFRDLTLGLVDLVALFPYDSTRYPIRTVSQLTREIYT-----N 270  
Qy 298 MASMNWYNNNAPSFAIAAAIRSPHLLDFLEQLTIFSSASRWSNTRHMTYWRGHTIQSR 357  
Db 271 PVLENFDCGSRGSAQIGIE-RSIRSPHLLMDILNSITIYTDH-----RGYYWSGHQIMAS 324  
Qy 358 PIGGLINTSTHGAATNTSNPV-----TLRFASRDVYRTES---YAGVLLWGIYLPFHGVP 410  
Db 325 PVFGSGPEFTPLYGTMGNAAPQQRIVAQOGGVYRTLSLTYRRPFNIGNQOQLSVLD 384  
Qy 411 TVRFNFTNPQINSDRGATANYSQPYESPGQLQKDSSETLPPETTERPNYESYSHRLSHIGI 470

385 GTEPAYGTSNLP-----SAVYKSG--TVDSLDEIPQNNVPPRQGFSLHSHVSM 435  
 471 ILQ-----SRVNVVSWTHRSADRTNTGPNRITQIPMVKASELPQGTTVVRGPFT 523  
 436 FRSGFSNSVSIIRAPMFSWTHRSATPTNTIDPERITQIPVKAHTLQSGTTVVRGPFT 495  
 524 GGDILRRNTGGFGPIRVTVNGPLTORVIRGFYASTVDFFVSRGGTTVNNRFLRTM 583  
 496 GGDILRRNTGGFGPIRVTVNGPLTORVIRGFYASTVDFFVSRGGTTVNNRFLRTM 555  
 584 NSGDELKYNFVRRAFTPTFTTQIIRTSIQGLSGNGEVYIDKIEIIPVATFAEY 643  
 556 DTGDLPTFQFSYATINTAFTFPMQSSFTVGADTFSSGNEVYIDRFELIPVATFAEY 615  
 644 DLERAQAVNALFTNTNPRRLKTDVTDYHIDQVSNLVACLSDEFCLDEKRELEKVKYAK 703  
 616 DLERAQAVNALFTSINOIGIKTDVTDYHIDQVSNLVACLSDEFCLDEKRELEKVKYAK 675  
 704 RLSDERNLQDPNFTSINKQDPFISTNQSNFTSIHQSEHGWSGSENIITQEGNDVPKE 763  
 676 RLSDERNLQDPNFKGINRQD-----RGRGSTDTITQORGDDVPKE 717  
 764 NYVLTGTFNECPTYLYQKIGESSELYKAYTRYQLRGYIEDSQDLEIYLIRYNAKHETLDV 823  
 718 NYVLTGTFNECPTYLYQKIDESKKAFTRYQLRGYIEDSQDLEIYLIRYNAKHETVNV 777  
 824 PGTESLWPLSVESPIGRGCEPNRCAPHFEWNPDLDCSCRDGCKCAHSHHFLSDIDVGCT 883  
 778 PGTGSLWPLSAQSPITGKCEPNRCAPHLEWNPDLDCSCRDGCKCAHSHHFLSDIDVGCT 837  
 884 DLHENLGVVWVFKITQSGHARLGNLEFIEKPLLGEALRSVKAERKWRDKREKLEIET 943  
 838 DLNEDLGVVWVFKITQSGHARLGNLEFIEKPLLGEALRSVKAERKWRDKREKLEIET 897  
 944 KRVTYEAKEAVDALFVDQYDRQADTNGIGHAADKLVRHIREAYLSELPIVPGVNAEI 1003  
 898 NIVYKEAKESVDALFVNSQYQDLQADTNIAHAAKRVHIREAYLSELPIVPGVNAEI 957  
 1004 FEELEGHITITSLYDARNVKNQGFNNGLTCWNVKGHDV--QOSSHRSDLVPEWEAEV 1062  
 958 FEELEGRIFTAFSLYDARNVKNQGFNNGLTCWNVKGHDVVEEQNNQSRSLVPEWEAEV 1017  
 1063 SQARVPCGCVILLRVATYKGYEGGCVTHIEIENNTDELKFKREBEVYPTDTGICND 1122  
 1018 SOEVRVPCGCVILLRVATYKGYEGGCVTHIEIENNTDELKFKSCEBEIYPPNNTVCND 1077  
 1123 YTAHQGTAGCADCACNSNAGYEDAVEYDVTASVNYKPYEBETVTVRRDNHCEYDRGVY 1182  
 1078 YTVNQEEYG--GAYTSRNRGYNAPSV-----PADYASVYEKSYTDGRENPCFENRGYR 1131  
 1183 NYPPVAGYVTKLEYFPETDTVWIEIGETEGKFTIVDSVELLLMEE 1228  
 1132 DYTPLPVGYVTKLEYFPETDKWIEIGETEGTFTIVDSVELLLMEE 1177

RESULT 15

US-10-365-645-14  
 ; Sequence 14, Application US/10365645  
 ; Publication No. US20030182682A1  
 ; GENERAL INFORMATION:  
 ; APPLICANT: Malvar, Thomas  
 ; APPLICANT: Gilmer, Amy Jelen  
 ; TITLE OF INVENTION: Antibodies Immunologically Reactive with Broad-Spectrum  
 ; TITLE OF INVENTION: Delta-Endotoxins (Amended)  
 ; FILE REFERENCE: 11792.0210.DVUS02 (MECO:210--3)  
 ; CURRENT APPLICATION NUMBER: US/10/365,645  
 ; CURRENT FILING DATE: 2003-02-12  
 ; PRIOR APPLICATION NUMBER: US 09/873,873  
 ; PRIOR FILING DATE: 2001-06-04  
 ; PRIOR APPLICATION NUMBER: US 09/253,341  
 ; PRIOR FILING DATE: 1999-02-19  
 ; PRIOR APPLICATION NUMBER: US 08/922,505  
 ; PRIOR FILING DATE: 1997-09-03

; PRIOR APPLICATION NUMBER: US 08/754,490  
 ; PRIOR FILING DATE: 1996-11-20  
 ; NUMBER OF SEQ ID NOS: 35  
 ; SOFTWARE: Patent in version 3.2  
 ; SEQ ID NO 14  
 ; LENGTH: 1177  
 ; TYPE: PRT  
 ; ORGANISM: Artificial  
 ; FEATURE:  
 ; OTHER INFORMATION: Hybrid Delta-Endotoxin  
 US-10-365-645-14

Query Match 53.8%; Score 3508; DB 12; Length 1177;  
 Best Local Similarity 57.9%; Pred. No. 8.4e-301;  
 Matches 721; Conservative 128; Mismatches 305; Indels 92; Gaps 18;

QY 4 NRKNENII--NAVSNHSAQMDLLPDARIEDSLCIAEGNNIDPPFVSASTVOTGINIAGRI 61  
 DB 3 NNPNINECIPVNCISN--PEVEVLGGERIE-----TGTPPIDISLSL 42  
 QY 62 LGVL---GVPPAGQLASFYSLVGLWLP--RGRDQWEIIFLEHVEQLINQIITENARNTALA 117  
 DB 43 TOFLLSFVPCAG---FVLGLVDIIWGIFGSPQWDAFLVQIEQLINQRIEFAFNQOIS 98  
 QY 118 RLQGLGDSFRAYQOSLEDWLENRDDARTSRVLHTQYIALELDFLNAPLFAIRNQEVPL 177  
 DB 99 RLEGSLNYQIYAESPREWEADPTNPALREEMRIQFNDMNSALTTPAIFLFAVQYQVPL 158  
 QY 178 MYVAAQANLHLLLRDASLFGSEFGLTSQETQRYRVERTRDYSVCVSEWYNTGNSL 237  
 DB 159 SVYVQAANLHLSURDVSFVGQWGFDAATINSYNDLTRLIGNYTDYAVRWYNTGLERV 218  
 QY 238 RGTNAASWRYNQPRRLTLGLVDLVALFPFSDYTRTPINTSAQLTREVYDAIGATGVN 297  
 DB 219 WGPDSRDWRYNQPRRLTLGLVDLVALFPFSDYTRTPINTSAQLTREVYDAIGATGVN 270  
 QY 298 MASNNWNNNAPSATIAAAIRSPHLLDFLEQITFSASSRWNTHTMTVWRGHTTQSR 357  
 DB 271 PVLENFDCSPRGSQAQIE--RSIRSPHLMIDILNSTITVTDH-----RGYVWSGQIMAS 324  
 QY 358 PIGGLTSTHGATNTSINPV---TLRFASRDVYRTES---YAGVLLMGLYLSPHICVP 410  
 DB 325 PVGSGGPEFTPLVGTWGNAAPOQRIVAQLGCGVYRTLSLTYLRPPNIGINNQLSVLD 384  
 QY 411 TVRFNFTNPQNISDRGTANTYSPYESGLQKQDSELTPELPPETTERPNNYESSHRLSHIGI 470  
 DB 385 GTEPAYGTSNLP-----SAVYKSG--TVDSLDEIPQNNVPPRQGFSLHSHVSM 435  
 QY 471 ILQ-----SRVNVVSWTHRSADRTNTGPNRITQIPMVKASELPQGTTVVRGPFT 523  
 DB 436 FRSGFSNSVSIIRAPMFSWTHRSATPTNTIDPERITQIPVKAHTLQSGTTVVRGPFT 495  
 QY 524 GGDILRRNTGGFGPIRVTVNGPLTORVIRGFYASTVDFFVSRGGTTVNNRFLRTM 583  
 DB 496 GGDILRRNTGGFGPIRVTVNGPLTORVIRGFYASTVDFFVSRGGTTVNNRFLRTM 555  
 QY 584 NSGDELKYNFVRRAFTPTFTTQIIRTSIQGLSGNGEVYIDKIEIIPVATFAEY 643  
 DB 556 DTGDLPTFQFSYATINTAFTFPMQSSFTVGADTFSSGNEVYIDRFELIPVATFAEY 615  
 QY 644 DLERAQAVNALFTNTNPRRLKTDVTDYHIDQVSNLVACLSDEFCLDEKRELEKVKYAK 703  
 DB 616 DLERAQAVNALFTSINOIGIKTDVTDYHIDQVSNLVACLSDEFCLDEKRELEKVKYAK 675  
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 DB 676 RLSDERNLQDPNFKGINRQD-----RGRGSTDTITQORGDDVPKE 717  
 QY 764 NYVLTGTFNECPTYLYQKIGESSELYKAYTRYQLRGYIEDSQDLEIYLIRYNAKHETLDV 823  
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 QY 824 PGTESLWPLSVESPIGRGCEPNRCAPHFEWNPDLDCSCRDGCKCAHSHHFLSDIDVGCT 883

Db 778 PGTSLWFLSAQSPIGKGEFNCAPHLEWNPDLDCSCRDGCKCAHSHHPSLDDVGC 837  
Qy 884 DLHENLGVVWVPKIKTOGHARLGNLEFIEBKPLLGEALSRVKAEEKWRDKREKLOLET 943  
Db 838 DLNEDLGVWVIFKIKTOGHARLGNLEFIEBKPLVGEALARVKAEEKWRDKREKLEMET 897  
Qy 944 KRVTTEAKEAVDALFVDSQYDRLOADTNIIGHAADKLVRIRIAYLSELVPIPGVNAEI 1003  
Db 898 NIVYKEAKESVDALFVNSQYDOLQADTNIAMIHAADKRVHSIRIAYLPELSVPFGVNAI 957  
Qy 1004 FEELEGHITAITSLYDARNVVKNGDFNNGLTWCNNYKHVDV-QQSHHRSDLVIPWEAEV 1062  
Db 958 FEELEGRIFTAFSLYDARNVVKNGDFNNGLSQNNVKGHVDEEQNNQSRSLVWPEWEAEV 1017  
Qy 1063 SQAVRVCPCGGYILRVYAYKEGYGEGCVTIHIEIENNTDELKFKQREBEVYPTDTGTCND 1122  
Db 1018 SOEVRVCPGRGYILRVYAYKEGYGEGCVTIHIEIENNTDELKFSNCVEEYIPNNVTTCND 1077  
Qy 1123 YTAHOGTAGCADACNSRAGYEDAVEVDTTASVNYKPTYEBETYTDVRRDNHCEYDRGYV 1182  
Db 1078 YTVNQEEYG--GAYTSRNRGYNAPSV----PADYASVYEKSYTDGRENPCFENRGYR 1131  
Qy 1183 NYPPVPAGYVTKLEYFPETDTVWIEIGETGKFIVDSVELLLMEE 1228  
Db 1132 DYTPLPVGYVTKLEYFPETDKVWIEIGETGTFIVDSVELLLMEE 1177

Search completed: December 10, 2003, 18:21:41  
Job time : 63 secs